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Agriculture Abroad.

From our Paris Correspondent.

THE BEET CROP has not been good this year; the weather was unpropitious; the plant ripened irregularly, had a tendency even to a second kind of growth rather than to maturity. This told unfavorably on the richness of the root. The transportation of the roots to the factory has been difficult, on account of the wet condition of the soil, and the washing of the roots was laborious owing to the same cause, complicated by the numerous rootlets which the moist season developed. The factories were compelled to commence operations earlier than ordinary; in fact there were in full work on the 30th September, 226 factories, or 41 more than at the corresponding period of 1881 Also 9,000 tons of sugar had been manufactured at that date. The mean degree of the juice was, 3:5, being one-tenth superior to that of 1881.

In Germany complaints are ripe, that notwithstanding the greatest care bestowed in the cultivation of beet, the crop fails to be profitable. Messrs. Kuhn and Liebscher, have since some time been occupied with the investigation of the anomaly, and trace the cause to the presence of an insect, the *nematode*, which develops itself rapidly pending the summer and autumn in the roots of the plant; it multiplies by premature development and dies early. The best way to conquer the scourge is, not to cultivate beet too frequently on the same soil, and so starve the enemy out. The culture of cabbage and colza has been recommended as traps for the insect, which has a marked predilection for these plants, and as the latter are consumed early in the green state, multitudes of nematodes are thus extirpated. Leaving a period elapse between the culture of the beet crops, in other words, adopting a rotation, appears to be the soundest plan for depriving the insect of its special food. Indeed this truth is becoming daily more and more evident, that the destruction of insects, by depriving them for a definite time of their favorite aliments is one of the fundamental advantages of a rotation of crops.

USE OF MACHINERY.—Something like a rage has set in to employ sowing machines. The only surprise is, that the change was so long coming about. Though Pliny desired a sort of cadence or harmony in the regular movement between hand and foot on the part of the sower, such could never compete with the implement. Indeed a sowing machine may be regarded as a kind of harrow, with hollow teeth, depositing seeds at measured distances and fixed depths. Dr. Edeln, a noted German agriculturist, has recently published a work on the sowing of seeds in rows by machines. Hand-sowings, however carefully effected, have the uniform vice of irregularity. The economy of seed by regulated distribution and equalized covering, is enormous. Take rye for example; the thirtieth part of an ounce of rye contains on an average 33 seeds or grains; this would represent 360 grains per square yard: Remark in the autumn and spring a good field of rye, and you will never perceive 360 plants on a square yard of soil, perhaps not more than 25 to 28, all badly grouped, and of unequal development. Judge then what must be the waste of grains in broadcast sowings generally. *Ab uno disce omnes.* Institute a contrast with a field sown by a machine, and the comparison will be conclusive. Again, in Norway where the fate of the harvest is a question of a few days, and where the winter snows often commence to fall before the stooks are carted home, the sowing of the principal crop, oats, is effected by the machine, and such secures invariably an advance of eight days in harvest. The complement of the sowing machine is the horse hoe; it is impossible to emply this instrument if the plants be irregularly distanced. M. Thomas estimates that to sow the 18 millions of acres under wheat in France, seed, valued at 300 millions francs, is required; the four-fifths of this value, or 240 millions, are lost by unproductive hand-sowings.

SALICYLIC ACID is regarded as a poison by [illegible] and so prohibited as an antiseptic in the preparation of wines, especially for exportation. Wine growers protest against the law alleging, that the quantity of the acid employed, less than one quarter of an ounce per 22 gallons, cannot affect health. Besides, all Spanish and Italian wines are dosed with the acid, and no complaints are heard against such brands. Some farmers claim, that salicylic acid added to food, secures stock in sound health, and for horses and cows, maintains a shiny skin. In Austria, arsenic is given to horses; it imparts to them dash, fire, and induces foam at the mouth, a consummation wished for in carriage horses.

THE DAIRY INTEREST, and the municipal laboratory of Paris, are at war; the analytical chemist, M. Girard, a scientist of authority, declared that the milk of cows fed on distillers' grains was aqueous to excess—in fact a watering of the milk simply in an indirect form, and an evasion of the letter of the law; nay more, that kind of diet tended to make cows consumptive, and so created a danger for the community. The dairy farmers appeal to M. Bouley, head veterinary inspector; he does not believe the milk of cows so fed, to be more aqueous than that from cattle nourished on the succulent pasture lands of Normandy. As to being a source of phthisis, the gland of the cow allows no germ of that disease to pass into the milk; it acts as a filter. It is a fact, that consumptive cows diminish in their secretion of milk, and the farmer has no interest in keeping such stock. Some cows yield about 20 quarts of milk per day, others 15 even when not fed on grass. Now in the case of 135 dairies, whose stock are fed on grains from a large distillery in the vicinity of Paris, the maximum average yield of milk daily for 2,132 cows, was 10¼ quarts. This is but a fair production. In Rotterdam, where the grains constitute so greatly the diet of milch cows, the public have never complained of the milk.

The New York Experiment Station.

The following bulletin it would seem impossible to condense or make satisfactory extracts from; so, it being quite interesting, we give it entire:

CULTIVATION EXPERIMENTS.

The difficulty of a field experiment can well be illustrated in our experience. At first thought it would seem as if ten experiments carried out under equivalent conditions, would serve to prove, by their results, the question experimentally asked. Thus, in one case where 10 plats of 1.20 of an acre each were planted with corn and kept cultivated, and 10 other plats were planted with the same variety of corn as a parallel series, except that no cultivation was applied, would seem to give a definite and conclusive evidence, in theory, as to the advantages or disadvantages of cultivation. Acting upon this supposition the 20 plats were marked out, fertilized and seeded; the one series of 10 receiving ordinary farm cultivation, the other series of 10 receiving no cultivation. The results were as follows:

CALCULATED BUSHELS PER ACRE.

	Cultivated.	Uncultivated.	
Unmanured	49.9 bush.	54.7 bush	Every other time representing the same variety of corn,
	48.6 "	39 6 "	
200 lbs fertilizer.	45.0 "	58 8 "	
	33 9 "	47 5 "	
400 lbs. fertilizer.	49.7 "	55 5 "	
	52 7 "	48.7 "	Two varieties of corn used.
800 lbs. fertilizer.	58.9 "	58 8 "	
	47.9 "	48.7 "	
1600 lbs. fertilizer	58 7 "	57.7 "	
	47.5 "	50 7 "	
Average	48.9	51.4	

It will thus be seen that the yield of the cultivated plats was inferior in eight cases out of the ten. Were these our only experiments we might well be justified in assuming that cultivation was a disadvantage to the crop.

Fortunately, however, a second series of ten plats alongside received also the same treatment and served as a duplicate series. The figure of this second series are as follows:

CALCULATED BUSHELS PER ACRE.

	Cultivated.	Uncultivated.	
Unmanured	51.9 bush.	34.4 bush	Every alternate line representing the same variety of corn. Two varieties of corn used.
	52 0 "	45.3 "	
200 lbs. fertilizer	53.2 "	32.4 "	
	51 8 "	45.0 "	
400 lbs. fertilizer.	58 3 "	37.7 "	
	51.6 "	44.0 "	
800 lbs. fertilizer.	51.9 "	58 4 "	
	56 1 "	42 4 "	
1600 lbs. fertilizer	63 7 "	59.7 "	
	55 8 "	56 3 "	
Average	54.5	44 1	

In this case the cultivated was superior to the uncultivated in eight cases of ten, and in one case no difference.

If we look at the average of these two series we find in series 1, the uncultivated plats yielding 3.6 bushels per acre more corn than the cultivated; the second series the cultivated yielding 10.4 bushels per acre more than the uncultivated.

Attempt will not be made here to explain these discrepancies. These facts and these figures will be left to the consideration of the reader to explain the most satisfactory to himself. With us they will only serve to point a moral; that the system of plat experiment as usually understood, i. e., the planting of equal areas under presumably like conditions and then estimating the efficacy of treatment by the crop yielded is not capable of giving answer which can be deemed trustworthy. Before progress in experiment can be made it will be necessary to devise some more accurate and scientific method; one which is not only free from the objection to the plat system, but one which may be capable in itself of giving results which can be acted upon as if trustworthy. This can probably be done, for while plats must ever hold their ground for the purpose of convenience in study, and for the purpose of verification, the experimenter must be able to devise measures by which the plats can be made equivalent in fact as well as in supposition.

These figures, barren of results as they may seem, are given to the public under the policy of the Station which forbids the Station indulging in prejudices or in giving expression to a desire to have its work correspond to preconceived theories. The truth and the whole truth, however it may clash with our prejudices, is to be given, and no attempt is to be made to divert figures into explanation of imaginary hypotheses or beliefs. It is well for us at times to take the public into our confidence and to illustrate to them some of our failures, believing that the story of failures may oftentimes be as valuable as the relation of successes.

E. L. STURTEVANT, M. D., Director.

Increase of Fertility Through Green Manuring.

Whatever rotation of crops may be adopted on the farm, the tendency is to exhaustion of the soil; hence it becomes necessary to devise some means for maintaining fertility. Nature's processes effect this purpose, yet these are impracticable under even the rudest kind of husbandry. In a state of nature everything is returned to the soil. Wherever man tills the soil much that it produces must be sold to supply his many wants. From such premises it has sometimes been argued that all agriculture necessarily tends to sterility—a most gloomy prospect, indeed, if true, for earth's teeming population who have all to be fed and clothed from the products of the soil. That such a theory is false and untenable the continued and remunerative cultivation of the soil in some countries for hundreds and even thousands of years abundantly attests.

It is evident that recuperative forces are at work in the farmer's behalf. He is not obliged to return everything to a moderately fertile soil to maintain its productive capacity. There may be sandy wastes so poor and so little retentive of what they receive that they need manuring, as has been wittily said, "every twenty-four hours," but in general a top dressing once in two or three years with frequent seeding to clover will suffice for ordinary purposes. The market gardeners who manure heavily every year are obliged to follow such a practice because their land is too costly to be kept in grass for even a single year. The value of a single crop is often greater than the

selling price of farm lands. In such cases, it is perhaps cheaper and better to manure heavily and keep the land constantly under cultivation. Gardeners do not, however, entirely dispense with green manuring. The practice is becoming more common every year with seedsmen and nurserymen at least to sow rye in the fall on land that would otherwise lie naked through the winter. Its growth furnishes a slight protection to the soil from blowing or washing away. Again, it is more than probable that the rye only takes from the soil such elements of fertility as have become dissolved by rains and would otherwise be wasted. In this case, however small the amount of manurial value of the green herbage, it is an absolute gain of what would otherwise be lost.

With some varieties of crops the spring growth of rye may be allowed until the latter begins to head, at which time its manurial value is greatest. The staple hoed crops as corn, potatoes and beans, do not need to have the ground fitted for planting until fall-sown rye is beginning to head. An excellent farmer has for years practiced this policy with a young apple orchard, plowing late in the spring, planting beans and seeding with rye after the bean crop is harvested. He drills in enough mineral fertilizers with his rye to supply that which the bean crop removes. Other than this supply of fertilizing material the land has for years received no manure. The soil is kept in excellent tilth and the growth of the orchard is all that could be desired. Until the orchard comes into bearing, cropping with some low, hoed crop, like beans, with little manure except green growth plowed under, is perhaps the very best policy that can be adopted. The country is full of young orchards which have never borne a crop, but whose annual growths show that the soil has been over-fertilized. After the bearing habit is established judicious manuring while the crop of fruit is growing is advisable, but until then green manuring with light cropping is every way best.

Wherever clover can be grown it must always be the staple crop, to be turned under a green manure. There are good reasons for believing that a large clover growth turned under actually adds to the fertility of the soil. Much of the mineral matters in its leaves and stems are brought from the subsoil, whence, in the case of other crops, they would be entirely unavailable. The bulk of clover crop in full growth is much greater than most farmers realize. The green herbage of such an acre might, when dried, yield little ovre two or three tons of hay; but by carefully washing away the soil, so as to preserve all the clover roots, it has been found that these, in their green state, weighed at the rate of thirteen tons per acre. The quality of the manurial value of clover roots is quite as remarkable as its quantity. They are rich in nitrogen, in lime, potash and phosphates. It is this which makes a clover sward when plowed under the best possible preparation for wheat. In its decay clover furnishes all that the grain crop requires, and it supplies such plant food in more available form, and more evenly distributed through the soil, than the same amount of material could be placed by any other method. With the most careful top dressing much of the soil will commonly fail to be placed in contact with the manure, and hence fail to realize any immediate benefit therefrom. On the other hand, clover growth plowed under enriches every particle of soil with which either leaf or plant has come in contact.—*American Cultivator.*

To see farming at its best we shall probably have to wait for a time when the farmer is not compelled to do so much manual labor himself as at present, but can give more thought to his work.

England and the Turnip.

Few plants are better known to farmers than the turnip, called with affectionate intimacy "neeps" by our Scottish friends, and "tumults" by provincials of North-Humberland. It was imported by Viscount Townshend in the seventeenth century, and was, according to Ray, the naturalist, first used for feeding kine about 1688, that is at the time of the glorious revolution when James II fled in disguise. We do not remember any mention of the humble and bucolic root in Macauley, but we venture to say that a greater and more glorious revolution was accomplished by the introduction of the turnip than by a change of dynasty. What would England be without it? If, as we are informed, Lord Viscount Townshend, who represented England at the States General, introduced the turnip, he is worthy of a higher monument than the Duke of York. We owe fresh meat for eight months out of the twelve to his enterprise. We owe our freedom from leprosy, scurvy, and other disagreeable consequences of feeding salt flesh, to him. The wonderful increase in population in these countries would not have been possible without the turnip. The employment of millions hangs upon the turnip. The investment of millions sterling is due to the turnip. The turnip is one of the mainstays in England, and the Lord Chancellor might well sit upon one, instead of a woolsack, were it not a trifle too hard and otherwise incommodious for such a purpose. Poets, statesmen and historians are apt to consider the acts of Kings and Parliaments as of the first importance, but to the vast majority of mankind, who governs is of no matter whatever. Work and food are of more importance, and it is difficult to exaggerate the value of the turnip as a source of both.—*London Agricultural Journal.*

Growing Potatoes.

At a recent meeting of the Central New York Farmers' Club, the subject under discussion was growing of potatoes.

D. Batchelor opened the question by reading Dr. Sturtevant's Bulletin No. 2, concerning the various methods of growing potatoes at the N. Y. Experiment Station. In addition, he read the following remarks of his own:

Whatever may have heretofore been known of the physiology of the potato, it is pretty certain that it was left to Dr. C. L. Sturtevant to discover the true relations of the structure of that tuber to its reproduction. Selected seeds as an important factor in the production of crops has been for years a favorite study with the doctor, and many are the significant results he has observed in the course of his experiments. The result of his experience last season with potato seed will, if borne out by future tests, prove of great value, not only in the saving of seed to the planter, but in the increase of crop. In an experiment made by him he observed, whenever pieces containing eyes were cut from potatoes and planted, that these all grew; but when a whole potato was planted only a small proportion of the eyes vegetated. This fact was a corroboration of what he had before supposed—that there was a radiate connection between the eyes of the tuber to some point or line in its internal structure. Another experiment was made by cutting out deeply, with a pointed knife, the eyes, and then planting the tuber in warm soil. The result was that in a short time buds appeared in the bottom of the cavetie where the eyes had been cut out. The same result of bud-growth appeared on a potato that had been thickly pared and then planted; thus showing that the germs possess vitality far below the rind of the tuber. Potatoes were then dissected, in various ways, and placed under a microscope for the purpose of finding the supposed central connection between the germs. At last thin slices were soaked in a solution of carmine, which operation "distinctly showed the tuber as a swollen stem, each eye being a terminal bud or branch, the branches running out from the central stem." The central stem also, or axis, was more fully shown and a cellular structure was discovered on the radiating branches of a distinct formation from that of other parts of the tuber. It should be distinctly understood that the central stem or axis runs through the potato from the stem end to the so called seed end, and that the branches to the eyes are somewhat like a terminal twig, having many laterals especially at its top. Reasoning from these exhibitions and results, Dr. Sturtevant concluded that if the eye-cutting for seed be carried clear down to the central part of the tuber, an individual and perfect plant can be obtained. And, although he does not say so, I venture to assert that for functional seed structure such a cutting would be as complete for reproduction as a kernel of corn. In the package before me are specimens of potatoes cut from seed, also slices soaked in carmine. The results thus far have shown that seed cut from the tuber in the manner as done by the doctor, have been just as prolific in production, and in some instances more so, than when a whole potato was planted, thus demonstrating that a large saving can be made in seed at planting, as well as great economy where new varieties are bought at a high price. As is well known to you, Dr. Sturtevant is director of the New York State Agricultural Experiment Station at Geneva, where he is conducting a series of experiments, the reports of which have attracted the favorable attention of the highest authorities in agriculture. It may be said of the doctor that, like a true scientist, he does not jump at conclusions, even when his results all point in one direction. I close by quoting his own language from Bulletin No. 2: "Let us remind the public that completeness of information can only be derived from the union of the experiment and the test, and that thus far, while we have the experiment, we are still lacking the test." By this he means a series of future tests from year to year.

Mr. Batchelor then took from a small basket several potatoes sent him by Dr. Sturtevant, which were cut and pinned together to show the doctor's manner of cutting. Beginning at the butt or stem end, every eye in a moderate sized potato was thus cut down to the centre, making 16 separate seed cuttings, or enough to plant eight hills. There were exhibited also thin cuttings from the central part of potatoes, cut lengthways of the tubers, and colored with carmine, which brought out the stem and branches of the eyes. These were seen to even better advantage in a fresh cutting made by Mr. Batchelor without any coloring at all. The branches run from the main stem at somewhat acute angle upward from the stem end to the eye itself at the surface of the potato.

Mr. Scoville said that many of the facts in Dr. Sturtevant's bulletin were the same as he had himself observed, except that his largest yield came from planting the whole potato. I aggregated, said he, 5,280 hills to the acre, using 45 to 50 bushels of seed, but of course it would hardly pay for the extra expense. In planting single eyes cut in this form from medium sized potatoes, putting one eye in a hill, I found that it wasn't seed enough. There should be two eyes in a hill at least.

Mr. Winship—By planting hills with two eyes, two bushels of seed per acre was enough for me.

Dr. Wight—I planted large potatoes, but could only use 15 bushels of seed per acre.

Mr. Batchelor—A singular corroboration of Dr. Sturtevant's theory was that when he picked out the main stem from the potato, every eye sprouted, but when the potato was planted whole, only a few eyes germinated.

Dr. Wright—The theory of Dr. Sturtevant is new to us all, and if it should prove true, as seems probable, it will be of incalculable value to the potato growers of America.

Mr. Winship—I regard the apparent stem through the potato as being simply a pith, being an elongation of that of the underground stem. But it is not a true stem thro' which sap might circulate. Potatoes often grow hollow. The seat of active growth is not in the centre of the potato. If you take one of these cuttings with one eye, it sprouts only at the eye. The rest simply furnishes nutriment. The eye is the only thing that sprouts.

Mr. Batchelor—Mr. Winship loses sight of one great fact, viz: That there is a certain part of the stem necessary to give the reproductive structure of organ of the potato.

Mr. Winship—If you go to bud a nursery tree, you take only the bud itself cut off very shallow.

Mr. Batchelor—But you put it right on the cambium of the tree.

Dr. Wight—If you have food enough to supply cell food that is all that is necessary according to Mr. Winship. It seems to me that is his weak point.

Mr. Winship—If I cut a potato right thro' the centre why isn't that just as well? I cut my Early Rose all into one eye, and I believe that is the best way to cut them, but if the potato is cut lengthwise I don't see why it would not answer the same purpose. I plant in drills about 18 inches, cutting in halves or quarters, for other potatoes.

Mr. Scoville—In digging out the eyes of potatoes with a penknife, I found that many of the eyes would not grow and reproduce. I think that some of Dr. Sturtevant's theories will need revision with another year's experiments.

Dr. Wight—I have planted potatoes in different ways, but found that the stem end gave the best results. That would accord with Dr. Sturtevant's theory, since the eyes branch at an acute angle to the main stem, and some of these branches would be severed by cutting across the potato.

Mr. Winship—The piece of potato planted can only furnish a sufficient amount of nutriment to give the plant a start; then it must rely on soil and air. I have planted sprouts and got potatoes from them, but never had much of a crop.

Mr. Lyon—I can't see the propriety of cutting in this way or any other, except to get all the starch possible to support them. I got 300 bushels to an acre from the old Pink-eye by quartering my potatoes. I can't see where there is any benefit in cutting, as Dr. Sturtevant advises, to the centre. I have never seen better results than were had from quartering the potatoes.

Mr. Gridley—How deep would you plant your potatoes?

Mr. Lyon—Six inches; first make a fine furrow so that the whole earth would be mellow. I wouldn't hoe them at all, but simply harrow, and keep out the weeds.

Mr. Gridley—I would plant 4 inches deep.

Dr. Wight—It would depend with me very much on the character of the soil, and on what the weather was going to be if I knew.

Mr. Gridley—I would like to ask if any one has had experience in trimming fruit trees at this time of year. Mr. Lyon tells me he thinks it will answer very well. I have heretofore painted the wound with red paint and find the wood perfectly hard and sound to-day, while other wounds not painted, I can run my knife into as far as the blade will go.

Mr. Lyon—If I cut a limb off in March leaving a projection I will have a bird's nest in it. I like cutting in the fall because no sap issues forth, and dry wood covers it over and heals it. I would also set out my apple and pear trees in the fall.

The Dairy.

Cream and Butter.

A question quite frequently asked is how many inches or pounds of cream does it require to make a pound of butter. Two such inquiries now lie upon our table, and we have made reply several times before this. Necessarily it is impossible to answer such a question definitely. Cream differs in richness, and of course the richer the cream the less it will take to make a pound of butter. The average richness, or composition, is about as follows: water 65.80; butter (pure fatty matter) 25.40; casein and milk sugar, 7.61; mineral matter (ash) 2.19. From this it will be seen that upon an average it requires about four times the weight of cream to make a pound of butter. But cream generally does better than this and sometimes vastly better. Dr. Voelker states that his experiments lead to the conclusion that one quart of good cream will yield from thirteen to fifteen ounces of commercial butter; and when cream is very rich, as when the cows are fed foods that are very rich in oil, a pound of cream will yield almost a pound of butter. It is the superior richness of the Jersey cream that gives that breed of cows their value. In the first place the milk is rich in cream, and in the next place the cream itself is rich. The cow herself has a great deal to do with it. Some cows are noted for their large yield of milk, but are valuable only when the milk itself is sold, it being poor in fats. If a dairyman is supplying the town with milk, he wants a cow that will yield largely of milk, but cares nothing for its richness. But if he is making butter, he will desire cream more than he does milk, and will find that many a good milker is practically valueless for this purpose. But it does not all lie with the natural butter producing merits of the animal. Of course food has a vast deal to do with the richness of milk and cream. If we feed what is destitute of oils, of fat producing elements, necessarily the milk will be less rich. But in feeding we must be careful not to create too much fat. A cow fat enough for the shambles is not in the best of milking condition.—*Western Rural.*

Making Butter.

A writer in an English paper says: There are three things which affect the taste of butter and its capacity to keep—the food of the cow, the method of setting the milk, and the system of making. In England butter is largely made from lappered or sour cream, and this system is still taught, but it is radically wrong. It is never so sweet as when made from separated cream or purely sweet new cream. Bad herbage or food of other kinds must affect the taste. A damp dairy exposed to drains or smells also affects its quality in a vital manner. But the method of making has also much to do with both the quality and quantity. I have seen it made in various countries in Europe where the district is famed for sweet butter, and everywhere the makers treat their subject as an art, and reap results accordingly. When everything is ready, and the cream well stirred, it should be poured into the churn, its temperature being about 58 degrees, or from this to 61 degrees, and to test it a thermometer should always be used. If the dairy is a degree or two below these figures the cream will be all right; if it is too low the cream may be removed to a warmer apartment until it has reached the required temperature. Some people add warm water, but it is dangerous to raise temperature suddenly or too many degrees at once. Small churns are sometimes placed in pans of hot or cold water, according to the season, but in summer very early morning will be found the best time for churning. Very cold water or ice should never be added, for the temperature excited is not then regular. The cream being regular, churning should commence, and whether it be hand, horse, or steam power, the action should be regular, say forty-five revolutions a minute. At first the churn should be ventilated a few times, or it will take longer in coming, that is, unless the churn is self-ventilating. It is best to use those which, like the barrel or the swing, act upon the whole of the cream at once, instead of only a part. Hence small beaters or dashers are objectionable. A churn should never be filled too full, it may be used for a small quantity, but never for an extra large quantity of cream, and if half filled and no more it will do very well. Whatever the churn, the butter takes longer to come at some seasons of the year than at others, while sweet cream churns quicker than sour cream, and clotted cream, much quicker than either. There is an advantage in a glass window, for it can be at once seen when the butter has commenced to break. Without this it is best to watch the sounds very closely, and lift the lid if the slightest variation occurs, as the action must change immediately this is perceived. The butter does not form into a mass at once, but the whole contents of the churn assume a granular form, which with a few turns of the handle solidify. It is when the granules are distinct and semi solid, that churning should be stopped and the buttermilk drawn out through a strainer. After this, clean cold water should be poured in and the handle turned three or four times gently again, when the water should be strained off. This action should be followed up three or four times until the water comes out clear, and then the butter will be thoroughly washed, as the water will have got round every granule and cleansed it, whereas if the butter be first solidified it cannot be thoroughly washed, and retains much of the casein of the buttermilk. In this washing process hard churning must be avoided above all things, and, at last, salt may be added if necessary, but it can be washed out if the flavor is not improved. Next, the butter should be gathered from the churn and placed upon the butter-worker, which should be run over it half a dozen times, but with care, so as to press out the remaining water and yet not destroy the grain, So far the butter has not been handled, and now that a machine has been invented for forming it into pats, it need never be touched by the hand. In the dairy districts of Normandy, Sweden, Denmark, and Switzerland the butter is not salted, but sold for consumption in its sweet state. Salting, however, is very necessary in many cases, and unless the salt is added in the churn it should be added in the butter-worker. The very finest sample should be used, and in proportion according to taste and the custom of the country. In salting large quantities, cakes of about two pounds each are flattened and salted, others being placed over and salted in the same way until the lump is as much as the butter-worker will take. It is then cut into four, and each piece is laid on its side and worked. In packing in tubs these should be washed out with salt water and salt should be strewed on the bottom as well as the top. There are many methods of salting—such as preserving in muslin bags, which are packed in tubs between layers of salt, and of preserving granulated butter in jars of brine.

Bringing the Butter.

This is the season of the year, or at least it is approximating the season, when our grandmothers used to declare the churn was sometimes bewitched; that the butter would not come, and if it did it would be white, tasteless, crumbling and full of white specks. In fact, it now seems possessed of all the many evils that so constantly beset the dairymaid in her arduous and complicated duties. We are also afraid that these mishaps have not confined themselves entirely to our grandmothers, but prevail even to this day in some districts, and among some dairymen in all districts. Perhaps a word or two upon the right way to do it, may be of service to some of our numerous readers, and with this purpose in view, we will probably be pardoned for telling again an oft-repeated story of how to make the butter come in proper condition to make up into the best article for the market. We never could believe in the wonderful effect of the cow on the result of the churn, as claimed by many writers. It is our belief, after many years of hard experience, that milk is milk, so far as getting the butter out of it is concerned. We want it to stand not less than twenty-four hours before skimming. Not that the cream may not be forced out of it somewhat sooner, but the cream, for some occult reason not yet determined by the scientists, needs some kind of ripening before it will yield all the butter. This can, in a measure, and possibly entirely, be compassed by ripening the cream by delay in churning after skimming. The rule may be stated as this: Churn the cream within forty-eight and not less than thirty-six hours from the time it comes from the cow.

Before putting it in the churn stir it thoroughly, and, if necessary, add a little water to dissolve the lumps or clots of cream. Then raise it to the temperature of sixty-four on a cold day, or sixty if the day is warm. See that it is put in the churn at exactly this temperature. It is far wiser to spend time and patience at this point to get the exact temperature than to go pounding away at the churn with the temperature all out of fix.

It is far easier to raise the temperature by fire than by hard work at the churn-handle, and at this season of the year that is generally the trouble. It is again far better not to let the cream get too warm than to have to sit by the churn an hour or so to let it cool off. Learn to use the thermometer with nicety and precision, and you will be amazed to see how the witches will all disappear. This is the vital point in churning. If it is properly guarded there is no need of further instruction, for the butter will then come quickly and in perfect condition, provided always the cream has been kept free from bad air and other injurious influences. The best way is to close it up in a tight can and put it in the coolest place attainable.

If the butter comes white it will be soft, and with little of the desirable rich aroma about it. This is caused by the cream being too warm in the churn. A heat of over sixty-five degrees is sure to destroy the color and delay the butter's coming. If the cream is too cold, below fifty-eight degrees, it is apt to become "whipped," or frothy, and great difficulty is experienced in getting it to come at all. When it does make its appearance it is likely to be crumbly and impossible to gather, though the color and taste are as desired.

White specks that form in butter come from a cheesy curd that forms in the cream, and is caused by the presence of too much heat that causes a certain amount of acid to form and curdle the milk that was skimmed off with the cream. To avoid this, keep the cream too cool for such acid to form, and do not delay the churning over forty-eight hours. Age and acid play the mischief with both milk and cream. Unlike the small boy, it can never be "too fresh."—*American Dairyman.*

Mr. J. H. Vannuys, of Indiana, had ten Jersey grade cows, which yielded him from milk, cream and butter, from January to December, 1881, $818.84, or $81.88 per cow, besides the calves.

Live Stock.

Value of the Cow.

The first cows were imported to this country by adventurers from Europe in 1609. They were mostly of Spanish and Swedish breeds. The first cows in the West were imported to Cohokia, Ill., in 1800. They were largely used in place of horses for drawing plows, etc. In 1850 the first cattle were driven across the plains to California. It was then thought that the nature of the country was such that it could not sustain cattle, but this was afterward found to be a mistake, the dairy interest of California being now self-supporting. In 1880 there were 35,877,791 horned cattle in the United States, which, estimated at $25 a head, would represent a value of $796,943,775. This was an increase over the figures of 1870 of 50 per cent. The census showed that in 1880 there were 12,442,137 milch cows in the country, which will probably be increased in 1882 to 13,000,000. Calculating the value of the milk flow at $40 per cow per year, the milk of these kine would be worth $520,000,000. An increase of 10 per cent. during the next year, means an addition of $1,000,000 per week to the wealth of the country. The State of Iowa in 1860 had but 869,811 cattle, and no creameries. In 1880 it had 8,521,000 cattle and 500 creameries, which number is constantly increasing. Estimating the annual butter yield of a cow at 100 pounds, these cows produce an annual butter product of 85,409,700 pounds, which, at 25 cents per pound, is a value of $21,282,425, one-half of which is exported. The dairy interest of Iowa, Illinois and Wisconsin, has increased 66 per cent. during the last 10 years, while the increase in New York State was but 6 per cent. The dairy interests of the States of Kansas, Nebraska, Dakota and Minnesota are also pushing forward with rapid strides. —*Col. Littler, before the Northwestern Dairy's Convention.*

Feeding Cotton-Seed Meal.

About six or seven years ago I began to feed cotton-seed meal to my cows, and have continued its use ever since. My cows are kept for making butter, and it is necessary to be careful of the effect of the feed both upon quality of the butter and upon the health of the cows, so that it required a long time and careful noting of effects to learn what I have discovered in regard to this feed. In the first place it may be said that it cannot be compared with corn or any other feed, excepting for the purpose of estimating or fixing a mixed ration for an animal; just as we cannot compare beef with potatoes, or butter with bread, excepting so far as to proportion the quantity of one to be used with the other in our ordinary diet. No person can consume beefsteak or essence of beef solely, and remain healthy; and no more can one feed only cotton-seed meal and keep his stock in good order, excepting for a short time when finishing them for the butcher. This will be obvious when we consider the nature of this highly concentrated food.

Although cotton-seed meal contains a great deal more nutritive matters than corn, it cannot therefore be used in place of it with corresponding advantage. In estimating fat as nutriment, in place of starch, gum, &c., one equivalent of fat is held to be equal to 2½ of starch, so that we have—

Cotton-seed meal equals 91.8 per cent. of nutritive equivalents.
Corn meal equals 83.7 per cent. of nutritive equivalents.

But we must not lose sight of the fact that cotton seed contains nearly five times as much albuminoids as corn meal, and right there is its most important characteristic to the feeder, because therein it becomes analagous to the flesh meat of human food.

Nitrogen cannot be used in the animal economy in anything like quantities in which

carbon can, because a very large portion of carbon is needed for the sustenance of vital heat; and if nitrogenous food is too largely given, it unduly enriches the blood, and produces an excessive strain upon those organs whose office is to remove excess of nitrogen from the system—chiefly the kidneys. In feeding cows too largely with cotton-seed meal, then, we might expect circulation to be unduly stimulated; and this is precisely what happens, and it appears very quickly in an increase of milk and cream, and, if anything goes wrong, in an attack of garget. In pigs and horses it appears as congestion of the brain, which we call staggers. Now I know this, because I have experienced it, and therefore maintain that for horses and pigs cotton-seed meal is a most dangerous food, and should never be given; besides, they do not want it, having other feeds that are better. For cows and sheep it is the most valuable feeding stuff we possess, *if given in moderation*, just as I find a beefsteak is the most valuable food for a man; but it will not do to consume it voraciously, or all the time, to the exclusion of starchy food, as bread, potatoes, rice, &c.

After several years' feeding, I have found one quart of cotton-seed meal—free from husk—one quart of corn meal, and one of bran, to make the best and safest feed-ration, given twice daily, for a cow in full milk. The husk of cottonseed is indigestible, and will make trouble very surely if fed to a cow.

When I say bran, I mean either rye or wheat, but I like rye best. The effect of cottonseed on the butter is to harden it, to give it a good texture, and a fine, nutty flavor. Linseed meal has quite the opposite effect, and palm-nut meal will make the butter soft and greasy too, although it largely increases the butter. But it is necessary to watch a cow very closely when feeding cottonseed, and never to give any of it within two months before calving, or within ten days afterwards, and then begin gradually. Two ounces a day is quite enough for a calf under six months old, and indeed I have never found it of any advantage to a calf, while it can have corn and oats and bran; I avoid using it for any animals except cows, or for fattening a beef animal.—*Cor. Country Gentleman.*

Weight by Measuring.

The following rule for finding out the weight of an animal by measuring may prove convenient: See that the animal stands square; then take his circumference behind the shoulder-blade—this is the girth. Then measure from the bone of the tail which plumbs the line with the hinder part of the buttock, and direct the string along the back to the forepart of the shoulder-blade; this will be the length. Then work the figures thus: Suppose the girth of bullock 6 ft. 4 in., length 5 ft. 3 in., which multiplied together make 33 square superficial feet; and these multiplied by twenty-three—the number of pounds allowed for each superficial foot of cattle measuring less than 7 ft. and more than 5 ft. in girth—make 759 lbs. When the animal measures less than 9 ft. and more than 7 ft. in girth, thirty-one is the number of pounds to be estimated for each superficial foot. And suppose a small animal to measure 2 ft. in girth and 2 ft. in length, these multiplied together make 4 ft. which multiplied by eleven—the number of pounds allowed for each square foot when cattle measure less than 3 ft. in girth, make 44 lbs. Again, suppose a calf or sheep, &c., to measure 4 ft. 6 in. in girth, and 3 ft. 9 in. in length, that multiplied together makes 16 square feet, and these multiplied by sixteen—the number of pounds allowed for cattle measuring less than 5 ft. and more than 3 ft. in girth—make 256 pounds. The dimensions of cattle, sheep, calves, and hogs, taken this way, will give the weight of the four quarters of the animal, sinking the offal. A deduction must be made for animals half-fat—of one pound in twenty from those that are fat; and for a cow that has had calves one pound must be allowed, in addition to the one for not being fat, upon every twenty.

The Best Hog for Profit.

There is considerable dispute as to which is the "best" breed of swine. In this article we do not propose to advocate the claims of any particular breed, but rather describe what I consider to be the ideal hog for the average farmer. It should be black in color, for the black hog is the healthiest, is not liable to mange or any other skin disease, it does not sunburn, or get sore if it gets in the mud, as a white pig will. While a white pig will do well on light sandy soils, or in a clean, tight pen, a black one will do well everywhere. It should be of a quiet disposition and not nervous or excitable, for all feeders have noticed that an animal that is the quietest fats the quickest and consumes far less food to produce a hundred pounds of flesh than an active and nervous animal. It should be a great eater and possess a stomach able to thoroughly digest everything it eats. It must have a strong healthy constitution and be a vigorous growthy animal, one that can be fatted at any age and be made to weigh 300 pounds at 8 months old, 400 at 10 months, 500 at 12 months, and 700 to 900 pounds at 1½ to 2 years old, for if we keep a hog until it is from 1 to 2 years old let us keep one that will pay for the extra feed it consumes, although I think in this country (Wisconsin) if we have the right kind of hogs it will pay better to sell them at 10 months old than to keep them longer. In form the pig should have a short nose, be wide between the eyes, dished head, short, thick, arched neck, heavy jowls, large, full shoulders, great girth around the heart, the shoulders sitting even and smooth on the body, which should be long and deep, back very broad and straight or slightly rounding from top of shoulders to root of tail, the hams should be wide, square, level with the back and running down to the hock, flanked low down; the legs should be short and bone strong enough to carry the pig everywhere if it is ever so fat. In my experience with the different breeds of swine I found those having drooping or lopped ears naturally have a quieter disposition than those having upright ears. Some may think my description is "fancy," but it is the kind of "fancy" that carries "profit" with it, for such a pig as I have described will fatten easier than any other style of pig, at least that is my experience. Any farmer that can produce this style of hog will find that he has the most profitable kind of stock he ever owned.—*Cor. Breeders' Journal.*

How to Improve the Horse's Walk.

We will take, to begin with, a horse of the slowest walking pace, say about three miles per hour. To improve this, put him alongside of a horse, either led or in harness, whose walk is about three and a half miles per hour; and when the three miler has come up to this, then put him along side of a four miler, and so go on increasing until he has reached the utmost limits of pace it is possible to get out of him. After this in riding or driving keep him up steadily to this best pace, and in process of time it may become almost natural and easy to him.

The reason (says an American contemporary) it is best to begin with the attempt to only increase his pace half-a-mile per hour is, if we tried at first to do it faster than this the horse would be constantly breaking into a trot to keep up with his companion, and in consequence, his walk would not be improved. The object is to keep him steadily to walk, and not permit him to break it. Trotting horses are improved in the same method; they are kept as strictly to this pace as possible whenever exercised or used, and not allowed to gallop. If they break into a gallop at any time on being urged to do their utmost on the trot, they are instantly checked and brought back to the trot. But if a horse is naturally a slow walker, it will require considerable time and no little patience to much increase his speed at this gait.

A reliable fast walker must be born so, and the best, quickest, and in fact cheapest way to get at this is to breed him. For the purpose, select the fastest walking stallion to be found, and breed him to the fastest walking mares obtainable. As a general rule these will drop fast walking colts. The fastest of these when grown should be selected for breeding, and so go on rearing and selecting till the breed is as well established for fast walking as those of fast trotters or racers now are.

Some may think that special breeding to obtain fast walkers is not necessary, and that any sort of a horse can be trained to it. Such doubters have only to carefully compare the anatomy of a fast walking horse alongside of that of a slow walker, to be convinced of the necessity of breeding for this special purpose, for the difference between the two in various nice points will be found considerable in bone, muscle, tendon, cord, and to sum up, in general structure. Place a heavy farm or cart horse alongside of a fast trotter or racer, and see how very different they are in make-up; and how impossible it would be to increase the pace of the former, either in a trot or a run, to that of the two latter. The thing is out of the question—all the teaching and training of the world could not do it. Now, like, as a general rule, begets like; and if you want fast walkers, in order to obtain them of a natural, easy, reliable gait, they must be bred from fast walking parents.—*London Live Stock Journal.*

Foot-Rot in Sheep.

The disease commences between the claws and the hoof, where it causes irritation, heat, and usually from the first, slight lameness. There is a very pungent, acrid, and offensive stench present. This is one of the surest tests by which those acquainted with the disease judge of its presence. It gradually works its way around under the hoof until it is loosened, and the whole foot is a mass of offensive disease; and often where it has been permitted to run, for any length of time, a number of the flock may be seen feeding upon their knees. Usually, at this stage, the foot becomes fly blown, and often a large number of the resultant maggots may be taken from the feet. Of course, this is very painful to the victim, and rapidly reduces the flesh and strength of the sheep; but being confined in its immediate work to the locality of the foot, it is surprising how long the poor victim will endure the strain; and it sometimes may recover without curative aid being applied.

With such a disease the treatment must be heroic and very thorough. The whole flock—every foot even in the flock—must be examined. All must be trimmed carefully, and from every diseased foot the hoof carefully cut away, just as far as the disease has spread under it, even if the whole has to be cut entirely from the foot. To every foot, whole or diseased, must be faithfully and carefully applied, with a swab, a mixture of pulverized blue vitrol and spirits of turpentine.—*Cor. Nat. Live Stock Jour.*

The Fat Stock Show at Chicago.

This seems to have been the most interesting and successful of the series. *The Breeders Gazette* says, "The number of entries was greater; the average quality of the animals better; the attendance very much larger, including a greater number of prominent live stock men." The same paper says:

"As between the breeds the Short-horns are far in advance, the Herefords only having won sweepstakes for best two-year-old steer. (Slaughter list not complete at this writing.) Mr. Gillette, for the third time, wins sweepstakes for best animal in the show, and for the second time this has gone two years in succession to the same steer. He also wins the Grand Special Marshall Field $250 prize for best five cattle of any age or breed, and first for car-load of three-year-olds. Mr. Moninger comes next with sweepstakes for best three-year-old steer and best car-load of two year-olds. Messrs. Potts have sweepstakes for best cow and for best yearling. These gentlemen each made good winnings in the class competition.

We were much interested in examining the cattle which were shown last year. Some of these showed bad effects from the long-continued high feeding; but a number had not only made good gains, but held their form well. Mr. Gilette's McMullen had gained 470 pounds; his cow Lady Peerless, 360; Chub, 495; Chance, 525; Storm, 545. Four of the Sherman Stock Yards steers made gains of 535, 430, 295, 292 pounds each. Messrs. Potts' roan steer, Major, made a gain of 425 pounds. Of course, other things equal, the younger the animal the better the gain per day. The pure Short-horn steer Cassius 5th, shown by Cobb and Phillips, with a weight of 1,140 pounds at 384 days, showed the great gain of 2.97 pounds per day. Among other large gains was that of Mr. Gillette's well-named Mammoth, with 2.89 pounds, and a weight of 2,220 pounds at 358 days; and of Fowler and Vannatta's Benton Champion, with 2.45 pounds at 574 days."

The show contained only Herefords, Short-horns, and their grades and crosses—the Devons seeming to have dropped out of the race and the Polls not yet to be in. The Hereford show was a disappointment; the average quality not being near so good as in former years, though there were many more exhibited. The *Gazette* says:

"The Short-horn men were jubilant, and well they might be, for so admirable a showing of fat stock of any breed was never before seen in America as they made here. Chief credit for this must be given to J. D. Gillette, with forty-one entries, and to D. M. Moninger, with twenty entries. Such large numbers, nearly all bred by the exhibitors, when of such uniform excellence, have an interest and value over that which can possibly attach to any single animal. Mr. Moninger's showing was of especial interest, as nearly all the steers were sired by one bull, out of cows obtained from Mr. Gillette. These two leading lots again showed the possibility of first-class animals as the product of the simple open-air feeding on corn and grass, practiced in the West. For two or three months past Mr. Moninger's cattle have had some oil-meal. Mr. Gillette's have been fed much as in former years—unhoused, and with corn in the ear.

Messrs. Potts were the most successful exhibitors in proportion to numbers shown. No breeders have done so much, this year, to give additional prestige to the Short-horns as has this firm. C. Dodge & Son of Ohio, made an excellent showing, especially attracting attention with a pair of pure-bred twin four-year-old steers, weighing 5,250 pounds.

The strength of the Short-horn show was not so much in the extraordinary merit of any individual as in nearly equal merit of large numbers. We do not remember any show in which were so many animals any one of which might have been made the "champion" without exciting much adverse criticism. The cows were quite the best, as a lot, ever shown here."

The prizes were given, as follows:

SHORT-HORNS.—Steer or spayed heifer between 3 and 4 years; 1, King of the West; 2, Dwight. Between 2 and 3 years; 1, Clarence Kirklevington; 2, Cassius 5th; 3, Cassius 4th. Cows 3 years or over; 1, Acorn 6th; 2, Lily Dale 2d; 3, Royal Clarence 6th.

HEREFORDS.—Steer or spayed heifer, between 3 and 4 years, Sir Richard. Between 2 and 3 years, 1, Wabash; 2, Excelsior. Be-

tween 1 and 2; 1, My Maryland. Cows 3 years or over; 1, Princess Alice Maud; 2, Bright Spot.

GRADES OR CROSSES.—Steers or spayed heifers, between 3 and 4 years. 1, Tom Brown; 2, Mayor; 3, Canadian Champion (All grade Short-horns). Between 2 and 3 years; 1, Grinnell; 2, Mammoth; 3, Col. Scott (All grade Short-horns). Between 1 and 2 years; 1, Red Major (grade Short-horn); 2, Benton's Champion (grade Hereford); 3, White Back (grade Hereford). Cows 3 years and over; 1, Lady Peerless; 2, Ohio Bell; 3, Nellie (all grade Short-horns).

SWEEPSTAKES—OPEN TO ALL.—Steers between 3 and 4 years. Premium to grade Short-horn Tom Brown. Steers between 2 and 3 years. Premium to Wabash (Hereford). Steers between 1 and 2 years. Premium to Red Major (grade Short-horn). Cow 3 years or over, Acorn 6th, (Short-horn).

GRAND SWEEPSTAKES.—Best steer, spayed heifer or cow in Show, John D. Gillette's McMullen (grade Short-horn).

CAR-LOADS.—Lot of 3 cattle, between 3 and 4 years, 1, John D. Gillette, of Illinois; 2, D. M. Moniger, Iowa. Lot of 10 cattle, between 2 and 3 years; 1, D. M. Moniger; 2, J. D. Gillette. Lot of 12 cattle, between 1 and 2 years, J. D. Gillette. All of these premiums went to grade horns.

COST OF PRODUCTION.—Entries accompanied by a verified statement, giving the exact age, breeding of the animal, the kind, quantity and quality of food consumed month by month, from date of birth until the steer spayed heifer was exhibited.

STEER OR SPAYED HEIFER, THREE YEARS AND UNDER FOUR.—First premium, H. & I. Groff, Elmira, Ont., Canadian Champion (grade Short-horn); weight, 2,400; cost $206.70; cost per lb., 8.61 cents. Second, same, King of the West (Short-horn); weight, 2,335; cost per lb., 8.92 cents.

STEER OR SPAYED HEIFER, TWO YEARS AND UNDER THREE.—First premium, Geo. B. Welch, Jim Blaine (grade Short-horn); weight, 2,535; cost, $82.96; cost per lb., 3.26 cents. Second, H. Norris & Sons, Jay (grade Short-horn); weight, 1,735; cost, $111.97; cost per lb., 6.42 cents.

STEER OR SPAYED HEIFER, ONE YEAR AND UNDER TWO.—First premium, G. S. Burleigh, Hattie (grade Hereford); weight, 830; cost, $23.22; cost per lb., 2.80 cents. Second, Cobb & Phillips, Cassius 5th (Short-horn); weight, 1,149; cost, $40 58; cost per lb., 3.56 cents.

From the *Gazette's* table of weights and measurement we extract the following, giving the name, ages, weights and average gain per day from birth of all the single prize animals.

Names of Animals.		Nov 15, 1882. *Age in days.*	*Wght in lbs.*	*Average gain per day from birth.*
King of the West	Short-horn	1,336	2,335	1.94
Dwight	"	1,299	2,060	1.58
Ohio 1st	"	1,316	1,840	1.40
C. Kirklevington	"	645	1,620	2.51
Cassius 5th	"	384	1,140	2.97
Cassius 4th	"	412	1,105	2.68
Acorn 6th	"	1,404	1 865	1.32
Lily Dale 2d	"	1,306	1,760	0.75
Royal Charmer 6th	"	2,656	2,955	1.00
Sir Richard	Hereford	1,131	1,765	1.57
Wabash	"	1,077	1,940	1.80
Excelsior	"	1,032	1 630	1.58
My Maryland	"	697	1,330	1.90
Princess Alice Maud	"	3 943	1,800	0.45
Bright Spot	"	1,818	1,545	0 85
Tom Brown	Grade Short-horn	1,171	1,945	1.65
Major	" "	720	1,965	2.72
Canadian Champion	" "	1,265	2 400	1 90
Grinnell	" "	1,011	1 850	1 83
Mammoth	" "	858	2,220	2 59
Col Scott	" "	1,784	1 905	1.84
Red Major	" "	715	1,600	2.23
Benton's Champion	G. Herefords	5 4	1,410	2.45
White Back	" "	720	1,475	2.05
Lady Peerless	Grade Short-horn	1,644	1 890	1.14
Ohio Belle	" "	1,836	1,815	2.11
Nellie	" "	2,039	1,995	0 97
Red Major	" "	715	1,600	2.23
McMullen	" "	1,613	2,565	1.59
Hattie	Grade Hereford	487	830	1.90
Jim Blaine	Grade Short-horn	932	1,825	1.95
Jay	Grade Hereford	972	1,735	1.78

Mr. Emory's Sale.

The sale of improved stock at Mr. E. B. Emory's Poplar Grove stock farm, was well attended, buyers being present from Queen Anne's and the adjoining counties, from Delaware, West Virginia and Kentucky.

Three half-bred Percheron yearlings brought $175, $185 and $75, the purchasers being John R. Emory and James H. Dodd. A lot of other yearling colts sold from $55 to $92.

Next came the short-horn bull calves, the first going to J. R. Emory for $150; others to J. N. Usilton, of Kent county, for $87; to J. H. Hall, for $100; Mr. Tybout, of Delaware, for $115; Richard T. Earle, for $100; George W. T. Perkins, for $82, and Thomas Wilson, for $62. These calves were all bred by Mr. Emory, and were splendid specimens. "Sallie II," bred by W. C. Stipp, of Kentucky, and calved in 1873, was purchased, with a calf by her side, by Alday Clements for $125; "Bloomfield Bell," bred by L. R. Schnebly, in 1877, sold to C. Wright Spry for $150. Then followed "Victoria XXVII," to W. D. Burchinal for $85; "Flora 37th Mazurka," to Richard T. Earle for $85; "Flora 39th Mazurka," to John R. Emory for $130; "Melody," to C. Wright Spry for $166; "Luan's Rose," to W. D. Burchinal for $120; "Galatea," to Richard T. Earle for $110, "Flora Gloster," to Wm. B. Dulin for $125; "Cambria Bell," to J. Hersey Hall for $102; "Roan Pink," with calf by her side, to Alday Clements for $121; "Imperial Lady Gloster," to G. H. Tarbutton for $60; "Imperial Lady," to John R. Emory for $71 50, and "Imperial Lady Bright Eyes," to J. Hersey Hall for $69.

There were no sheep offered except bucks, and as these were out of season they did not find a ready sale. Mr. Emory closed out his entire lot of young Berkshire pigs at $10 to $15 each, at private sale. The sale footed up over $3,600.

Mr. Emory, says the *Centreville Observer*, has the best arrangements for stock raising in the county, having, at heavy expense, fitted up new, warm and well ventilated buildings for the comfort and health of his stock, and also, at a very heavy expense, purchased largely of the purest and best strains of Shorthorn cattle, Cotswold sheep, Berkshire hogs, etc., from which to raise his stock. He proposes to have sales annually, and by this means and his frequent private sales will do very much for the improvement of stock in this section.

Horticulture.

The Orchard and Fruit-Garden.

At this season of the year it would seem that little can be done to promote the well-being of the orchard, and while it is a fact that the *press* of urgent and really necessary labor in that respect is over for a season, there are still some things that *require* attention, and others of minor import can be looked after now, and thus lighten the labors of the more busy season. Where the trees have not made satisfactory growth, manuring—by top dressing with ashes or fine compart—can be done even if the ground is frozen hard enough to bear the weight of a loaded cart or wagon, as well as at any other time;—just here we would remark that wood-ashes is the only fertilizer from which we ever derived any perceptible benefit by placing immediately around the trunks of orchard trees. Our experience in the use of ashes in the orchard has induced us, on principals of economy, to apply them in no other way, viz: using from a quart to a peck of ashes to a tree, according to age of tree and quality of ashes. Other manures or compost should not be piled immediately around the trees, as injury to trees thus treated, is as often the result, as benefits derived. Good harbors for field mice are thus prepared, too, at the most convenient place for them to perform mischief, which is none the less irreparable because of its being invisible. Trees that sometimes put forth leaves in the spring, and when the drying suns of summer come on, wither and die, have had their roots completely barked by field mice; all coarse manners, therefore, are in all respects more safely and economically applied by spreading evenly over the soil, beginning a foot or more from the trunks, and extending several feet farther out than the limbs of the trees. All dead grass or weeds should be removed from about young trees in the orchard, so that no shelter or protection may be given to mice near the trees.

From various sections of middle and Southern Maryland we have complaints of cherry trees becoming blackened, and the bark peeling off,—usually on the southwest side of the trees; this is particularly the case with the Heart and Bigarrean varieties. A majority of these complaints end with the expressed belief that "our climate is too hot for them."

Now, whilst this injury is in part attributable to the effects of the sun, it is not, however, the hot suns of summer that do the mischief. We have had much of the same trouble to contend with on our own grounds; we at first, and for several years, attributed it to a *weakness* peculiar to certain varieties only; we then extended our list of kinds, so as to embrace upwards of forty varieties, and while we could perceive a difference on the hardihood of kinds, still the *best* of them failed to meet up to the requirements of the case. observation subsequently enabled us to place blame where it properly belongs, and we are satisfied now that it is the warm sun, which we frequently have during *winter* days, followed by sudden change of temperature and hard freezing at night of same days, does the harm. When the sun in winter gets around far enough to shine on the southwest side of trees, it is then warmer than at any other time of the day; the gap vessels on that side become thawed, then suddenly frozen up again on the following night, and this being frequently repeated during the winter causes many of these little cells to burst, and as a consequence follows bark blight on that side of the trees. As a remedy, or rather preventive, we nail two light boards together, in the form of an old fashioned pig-trough, of sufficient length to reach from the ground to the limbs of the tree which we wish to protect; then set up this trough (tree in it) so that the *angle* of the trough is toward the southwest; secure by either driving the trough in the soil, or by boring small holes in each side at top and tying across so as to encircle the tree. After experimenting with several other devices we adopted the above as the simplest and most effective.

In the fruit-garden the mulching of strawberry beds with coarse stable manure, straw or other litter can be attended to now, as also raspberry and blackberry beds will repay well a little extra attention of this kind. Grapevines can be pruned, also gooseberry and asparagus, though not strictly coming under the title of this article, are frequently found in the fruit garden, and as they are both ravenous feeders, they should be heavily top-dressed with good manure, the strength of which will be carried down by the rains to the roots of these plants, and be in available condition to force early and strong growth.

Grape Grafting in the Fall.

Last fall, early in December, we did considerable grape grafting, covering up the work so as to keep out frost. At this time —June 2d—we can see the result, and it is quite satisfactory. There is always more time in the fall and early winter when there are mild spells of weather; and if done then, it need not be attended to in the spring.

Last spring we mentioned the idea of using Clinton cuttings with the lower eyes cut out, so as to do away with the suckers which that variety throws up so numerously. This spring we grafted those in the rows where the cuttings were planted. One went along with a hoe, taking away the earth down about three inches, then clipping them off with a pair of grape shears; another followed with a thin bladed knife in one hand and a tack hammer in the other, setting the knife at the right place and giving one stroke with the hammer when they were ready for the grafts. The grafts, if long jointed, were of but one eye, with about four inches of wood below the eye; if short jointed, two eyes were left. They were wedge-shaped in the ordinary way, and struck in at a slight angle, so as to be sure of crossing the sap. No tying was done, but the earth was pressed firmly around the grafts, taking care not to displace them. The whole row was then covered over the bud—which was in all cases brought on a level with the surface of the ground—about one inch with chip earth that had been run through a sieve, the finishing touch being to strew dry grass and weeds on the row. The work was done so speedily that I think I would undertake to put in five hundred in a day with the help of a boy.

Now these grafts look as if they intended doing their very best. They may not all grow, yet the most of them will. Very few suckers to bother with.

On the whole, we consider the thing well worth repeating, and now we have a thousand Clinton cuttings prepared in the same way. If in this way we can make a plant for almost every eye of those so hard to propagate otherwise, we can make good use of the Clinton, as it strikes very readily from cuttings.

This grafting was done all through April, from the beginning to the end, and we see no apparent difference in the success. While grafting the last, the vines bled freely, thus showing that that is no serious matter. My impression is, that much of the ill success in grape grafting is owing to the grafts not being sound or well kept, and not properly covering the grafts when set.—*Fruit Recorder.*

The Apple Tree Borer.

When permitted to have its own way, this is a very destructive enemy to the young apple-orchard, but fortunately can be prevented from doing any injury by a very little labor, if it be properly directed and performed at the right time.

Those who have kept the trunks of their trees protected during the summer with a mound of coarse sand, or a covering of paper, should not neglect to remove the protection before cold weather sets in, and carefully examine the trees to make sure that no worms have hatched out. If the trees had been examined in September, as they should have been, whatever worms that had been able to avoid the protection would have been very small, not much more than ¼ of an inch in length, and so near the surface of the bark, that by scraping with a knife his lodging place could have readily been discovered, and the worm destroyed; but if the work of examination has been delayed until the last of October, the worm will have increased very much in size, and have eaten its way down from four to six inches from where the egg was hatched; as the worm proceeds downwards, he will penetrate the bark nearer to the wood, so that by the first of November he may be found between the inner bark and the wood of the tree. A worm that has advanced to this stage has caused a permanent injury to the tree, by making a defect which furnishes one of the best places for depositing the eggs for another generation.

The miller rarely ever deposits an egg on a smooth surface, but almost invariably

selects some deflection, and if a wound so much the better; in such places the eggs are protected before they hatch, and the little worms when hatched find a moist place to start life in; this is important, for if they should hatch out on a hard smooth surface, they would find it very difficult to eat their first breakfast, especially if they should chance to commence life during dry weather.

One of the secrets of keeping borers from an orchard, is to keep the trunk of the tree protected during May, June, July, and August up to a point where the trunk of the tree is smooth, but no protection should be fully relied on; the trees should be carefully examined twice a year; first in May, when the protection should be placed around the tree, and in autumn when the protection is removed.—*Canada Globe.*

Buy Small Trees.

The average American is in a great hurry to realize on his investments. If he orders a few garden seeds in January, he is anxious to have them sent immediately; and if he forwards six cents for a copy of some paper which contains a story of which he has read or heard he does not forget to request the publisher to send it "by return mail." Patience which takes the form of quiet waiting, is a virtue of which he seems to be wholly ignorant. He cannot wait the progress of events but must constantly hurry and fret in order to make nature move a little faster than her wonted pace.

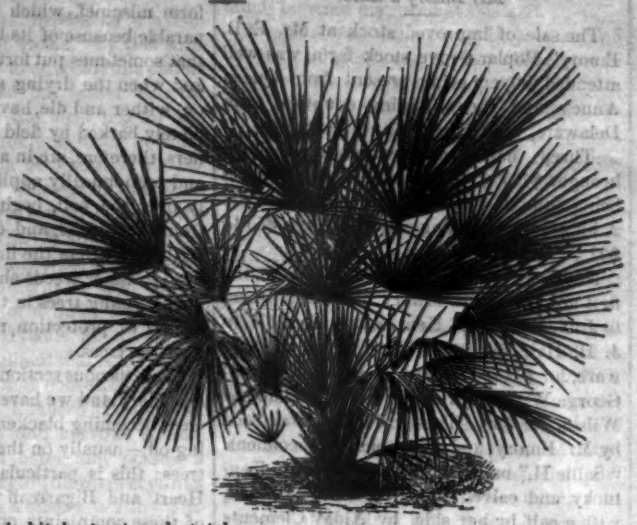
This tendency crops out very plainly when he purchases trees. He finds them described in the catalogue as "second class," "medium," "first-class," and "extra." The difference in these classes is principally, not wholly, in the size and height of the trees. The larger the tree the higher the price—but the farmer "don't care anything about that." He wants "good trees or none," and gives his order for those of extra size and which are four or five years old. In doing this he thinks that he is acting wisely, but the nurseryman knows, and the farmer will find before long that, with equal care, the small tree will grow faster and (if a fruit tree), come into bearing condition sooner than the large one.

In half a dozen years the tree that was small when planted will be larger and finer than the other. The reason for this is obvious. The larger the tree the larger the roots, and the less fibers there will be upon them. A tree that has plenty of fibrous roots will grow readily if proper care is used in transplanting; but no account of skill can coax a tree to live and flourish which is destitute of these little fibers. The roots of large trees are always more or less mutilated in the process of taking up, while the small trees sustain little injury from this source. Dealers in trees assert that experienced men buy small, thrifty trees, while those who are just starting are anxious for the largest ones to be had. Those who are to set trees the coming season will do well to learn from the experience of those, who, at considerable loss to themselves, have demonstrated that small trees are the ones to buy.—*N. E. Homestead.*

Girdling Grapes for Fruit.

An interesting and successful experiment was conducted last year at the vineyard of the Massachusetts Agricultural College. Prof. Maynard, who is in charge, selected twelve rows of the grapevine, and on these all the surplus canes—those not needed for the formation of next season's fruit spurs, were girdled. A small revolving knife is employed, which does the work rapidly. A ring of bark one-fourth of an inch wide is removed just below the fruit. This was done between July 10th and August 1st, and an account of the labor and proceeds from the girdled fruit, which before the main crop ripened was kept. The cost of labor was $18.75 (about one-half more than it ought to have been) and the fruit sold for $36.18 above the price from the same amount of fruit from the main crop. Girdling produces superior bunches and an earlier ripening, both important points, if the vineyard is near a city market. No injury to the vine has been noticed from this practice. Of course at the succeeding year the old canes are discarded and new ones bear the fruit, and the girdling may be repeated.—*Michigan Farmer.*

A Fine Palm.—*Chamærops Excelsa.*



This palm is a native of the north of China, and in this latitude is nearly hardy, succeeding well in a cold house. The leaves are shaped and plaited like a fan, having the margins deeply cut into numerous sharp-pointed divisions; the foot stalks are long and generally prickly, and are inserted, at their base, in a mass of coarse fuscous matter. The color of this palm is a rich dark green, and its habit is erect and stately.

Pitcher Plant.

No family of plants has, of late years, attracted more attention from cultivators than the curious pitcher plants, one of which, the Nepenthes Pattersonii, is represented in our engraving. This variety is of free growth but dwarf habits and the pitchers, which are produced abundantly, are marked with numerous brown spots, it being a distinct and valuable sort. At the late Horticultural Exhibition a number of these plants, very handsomely grown, were shown by Mr. Robt. J. Halliday, of this city.

There are many species of these striking plants in cultivation, some of them hybrids of marked character, and they are very popular favorites now in collections.

Trucking Near Norfolk, Va.

Messrs. Editors American Farmer:

I have been spending several weeks lately among the truckers of Norfolk and vicinity, and thought, perhaps, your readers might be interested in knowing something of the immense proportions this business has attained there. Naturally well located near the seaboard, at the entrance of one of the largest and best harbors on the Atlantic coast; an important seaport, a stopping place for vessels between the North and South; possessed of a mild climate and soil specially adapted to trucking; Norfolk stands second to none as to advantages favorable to this business. It had attained large proportions before the war, when it received a temporary check, but since that time fresh impetus has been given by the large influx of truckers from further north, many of our people from Anne Arundel county being among the number, and we might remark none the least intelligent of the lot.

A large number of vessels are engaged in carrying produce from Norfolk to the more northern cities, such as Washington, Baltimore, Philadelphia, New York, Providence, Boston, etc. Daily, tri-weekly, or semi-weekly steamers connect with each of these places, each vieing with the other in making the quickest time. The state of the market is closely watched by the trucker, who is usually his own shipper, and consignments made according.

The whole of Norfolk county is very level, seldom rising more than ten feet above tide-water; it is intersected with numerous salt-water creeks, which in turn branch off into numberless coves which might make it unhealthy but for the extreme saltness of the water aided by the heavy tides constantly coming and going. Those watercourses are a great advantage in transporting both truck and manure, and oysters thrive in the salty water, and almost everybody has his private oyster beds. There is an abundance of fish, waterfowl, game, etc., in season, including a few deer in the forests not far from the city. We enjoyed a hunt after the latter, during which one of our party bagged a fine doe.

But I am digressing; it was of trucking we proposed to tell, and we were surprised at the large acreage planted in kale, spinach, cabbage, &c., also at their methods of cultivation so different from what we had been used to at home, from the level moist nature of the soil and its tendency to injure from standing surface water after heavy rains, it is necessary to drain by means of deep open ditches, and ridge up the rows of cabbage, kale, corn, &c., such a system would be considered ruinous in our locality. I liked the plan of sowing the seeds of winter greens in rows, as it admits of easy cultivation which is highly beneficial, and might be practiced to advantage here as elsewhere. A variety of kale, known as "Scotch," is being largely cultivated. It is beautiful and tender in appearance and commands better prices than the common kinds, but requires stronger land to grow in. Neither spinach nor kale requires any winter protection, cabbage plants are set upon the *southside* of the ridges, and from one of the trucker's largest and most profitable crops, a larger acreage of all these crops have been set out this fall, owing to the high prices realized last year. It is so in every trucking community: if a crop sells well one year they aim to kill it the next. Few are able to procure or use enough stable manure to do them, consequently they are forced to use large quantities of commercial fertilizers, chiefly Peruvian guano. Some home-made articles, manufactured near Norfolk, are giving great satisfaction, equaling Peruvian guano in effect, besides going farther.

We were disappointed in the Young Bros'. great strawberry farm, which enjoyed the reputation of being the largest in the world. Owing to losses and the great risk and expense connected with its management it has been discontinued and given over to other purposes. The strawberry crop of Norfolk is usually an enormous one, sufficient to break down Northern markets early in the season. The rule is to pick over the patches every other day and oftener when possible Neither strawberries, tomatoes, or canteloups are allowed to get fully ripe before gathering when shipped long distances. Everything requires to be boxed or barreled in the best manner, which goes to form a considerable item of expense in connection with the business. Freight to and commission in the Northern markets are quite reasonable, much more so in the former than is offered by the railroad companies. Communication with the Western cities by rail has recently been opened up, and the future outlook is quite encouraging for the natives of that favored clime. Owing to the length of the seasons two crops and sometimes three are grown upon the same land in succession during the year. Corn follows nearly all the spring crops, maturing well before the frosts. I saw but little clover, but plenty of black peas, by means of which the fertility of the soil is kept up; were it not for these the continued use of fertilizer would soon exhaust the soil; so far from this being the case we were assured that the land improved rather than otherwise from their use where peas were grown. R. S. C.

A. A. County, Md., Nov. 21.

Kitchen Garden—December.

The season of active work in the garden being now over we can only look back on past successes and failures and forward to new endeavors. The year just drawing to a close has been a favorable one, there having been no serious drouth in these parts and no more insect pests than we are led to expect as a matter of course. I notice, without being able to assign a reason, that cabbages transplanted late in June grew large and fine, whilst those set out in August did not head well and are badly worm-eaten. I did not try worm remedies to any extent and cannot report progress in that direction. If we only had cheap nets to throw over promising plants when the butterflies are hovering over them—but I need not indulge in idle speculations.

The pit that I dug last fall, replacing the clay subsoil with good earth, has turned out

so well that I should like to have another just like it. In spring I filled it with cauliflower and lettuce in the usual way and they all headed finely. In summer I used it for pricking out celery. Next I planted it with celery nine inches apart each way—too close, by the way—and now I shall remove the celery and plant lettuce; cauliflower again in spring. Half the soil used was swamp-earth, which was made sweet in the course of the winter by the use of lime. It was heavily manured and the whole dug over twice to the full depth, viz: two feet.

Tomatoes once more.—Mr. Sanford finds my experience with tomatoes, as given in your August 15th number, greatly at variance with his own. I do not so regard it. Certain plants, he tells us, of early tomatoes that were not pruned when young were nearly two weeks later in fruiting (on the same ground, too,) than plants of the same age that had been pinched. Now, *two weeks'* start of one's neighbor in a matter of this kind is rather too much, as all experienced truckers will testify, not to speak of plants growing side by side, and suggests something wrong. What that something is we have not far to seek. Imagine plants started early in January and kept in the nursery bed some four months *without trimming*! Were such plants fit subject for experimenting with? I think not. Their failure to give satisfaction should have been a foregone conclusion. Thay were not to be compared in any way with the plants described and set out by me and designated as No. 1.

On the other hand, the bulk of the plants set out here the past summer were, I am convinced, such as would have pleased Mr. Sanford. They were handsome, hardy, well-branched and well-rooted, and he could have had no excuse for not preferring them to the meaner looking, untrimmed plants that were in an adjoining frame. Had he done so, the result proved that he would have been badly *sold*. They were neither *quite* so hardy nor so early as the others, although they were set out side by side and were cultivated by *patients* who are incapable of discriminating. Nor were the plants a whit more productive so far as one could judge from appearances—there being no sound reason why they should be so—although Mr. Sanford makes the remarkable statement that, other things being equal, we, "of course," get three times the amount of fruit from a plant having three leaders that we do from a plant having one. Do we get a fraction of a pound more? That's the question.

A large part of Mr. Sanford's article, addressed to beginners, is interesting and instructive and I can agree to most that he says.

Until the decision of an experiment station, or further experiments of my own shall say otherwise, I shall continue to believe: (1) that sowing before the latter part of February in this latitude is unnecessary and unprofitable; (2) that seed should be sown in light earth, and pricked out when the plants are strong enough into more substantial soil; (3) that they should be thoroughly hardened off by the 25th of April, though not necessarily planted out at that date; (4) that having been sown late they will not require topping if properly managed; (5) that topped plants are not necessarily earlier nor more productive than plants untrimmed, both of which positions have been asserted in your columns; (6) that plants sufficiently toughened will bear a light frost with impunity and will, as a rule, gain in earliness by being early established where they are to fruit; and (7) that plants cannot be properly hardened—or rather *toughened*—in the usual light soil of the hot-bed.

I hope to be pardoned for writing at such length on this subject. There is really but little that can be done in this month in the kitchen garden and so I must plead dearth of matter.

I like Mr. Massey's idea of the farmers combining a chicken-house and grapery. A few bunches of Black-Hamburghs that I raised this season in tubs were so much appreciated that I propose to plant a few vines in a greenhouse which has hitherto stood empty in summer. I shall make no expensive border—just good garden soil and stable manure, and it shall be wholly above the ground level to enable me to dry off the border and ripen the canes in good time in the fall. How shall I ward off mealy bugs which are sure to appear? JOHN WATSON.

The Making and Keeping of Cider.

Cider makers may profit by the following hints from an exchange on making and keeping cider:

To make good cider, good, sound, well-ripened, clean apples must be used, and no others. It is better to crush them than to grate them. Everything about the mill with which the apples, pomace, or cider can come in contact must be clean—perfectly so.

The apple juice, when expressed from the pomace, must be filtered so as to take out every particle of apple or other solid matter which may be floating in it. Cleanly washed sand is sometimes used, and animal charcoal; but probably a mass of perfectly clean cotton, or cotton cloth, of many thicknesses, will be found as good as anything. The cider should be expressed from the pomace as quickly as possible after the apples are crushed, and the juice will be nearly as white as water if it is immediately filtered. If the pomace is allowed to stand some time after crushing the apples, before pressing, the cider will be colored and not as good.

When made as above, and filtered, the question is how to keep and cure it fit for use. First a clean cask. If it has been used for cider before it must be wholly freed from the flavor of its previous contents. This may be done by burning out the inside; no other way is certain, though long soaking in water and washing may make a tolerable clean cask; but it is better to use a new cask or one that has been used for spirits. Before filling the cask, adapt a faucet to it, so that the contents can be drawn off three or four inches above the bottom. Fill the cask perfectly full and place it in a cool cellar, where it will not be moved or in the least disturbed, and fit a bung with a small aperture so that gas may escape while fermentation is going on. Before fermentation has ceased, bung up perfectly tight with a small faucet, or its equivalent, through or near the bung, by which air may be admitted when necessary; but this must not be opened except when it is impossible to draw through the lower faucet without admitting air, and then admit as little as will answer. Cider fit for drinking cannot be made in warm weather, unless you have a much cooler place than farmers' cellars generally are to store it in. A temperature below 50° is indispensible. With such places for storage as farmers are likely to have, cider should not be made until November. When made, filtered and stored, as above described, it should not be drawn from or in any way moved or meddled with until it is cured, which will not be until May following, and it will be still better to let it stand longer before drawing from it. You can draw from it some time before it will be necessary to admit air through the faucet on the top of the cask, as the gas generated will force the cider out; but when it ceases to do that, then a little air must be admitted, from time to time, through the upper faucet, which must be kept closed except when it is necessary to admit air to the cask. Cider made and kept and cured in this way will be more palatable and more wholesome than any wine, and is much safer to use in moderation than lager beer and ale. Thus it will be seen that to have good cider, we must have the pure juice of good ripe apples, in a perfectly clean cask, placed in a position in a cool cellar where it will not be moved or jarred, and after the apple juice has gone through about three-quarters of its period of fermentation, tightly closed, and then left to cure until about May 1st. If the air faucet is carelessly left open the cider is spoiled—reduced to the condition in which we generally find cider, unfit to drink. If you want apple juice, or uncured cider, for use during the winter, set apart a cask sufficient for the purpose, made and treated as above described. Most farmers can add to their receipts by using their sound apples which are too small or ill-shaped to be merchantable, in the way indicated, and promote temperate and good health.—*Selected.*

It Pays to Raise Corn.

Messrs. Editors American Farmer:

I read in your issue of the 15th November, a discussion on the question "Will Farming Pay?" by the Harford County Agricultural Club, which interested me very much. My youngest son is the farmer, and I being an old man, am only a looker on in Venice, and amuse myself by taking a hand when it suits me and I feel like work. We had a field in corn, of from thirty to thirty-five acres. The corn was all cut off and shocked, and the land seeded in wheat. It took my son some eight or ten days to cart in this corn and re-shock the fodder—putting two shocks into one, to insure its standing up better—and he worked a force of from six to ten hands while getting the corn into the barn and shed. The yield of the field was 285 barrels of long corn, or 1,425 bushels. There was but a small yield of short and rotten corn, and the amount not measured. Two hundred and forty-five barrels of this corn was shucked and lofted in five days by ten hands, three of them women.

Each hand had a flour tub to shuck in, and my son kept the tally paper and scored each tub as it was filled and emptied into the cart. When the cart was full it was carried to the corn house and lofted. The men and boy hands were engaged almost half their time in lofting the corn. The women moved back the shucks, etc. The yield was nearly fifty barrels a day shucked and lofted. The field yielded between nine and ten barrels to the acre. All the poorer parts of the field, in the spring, were covered with sea-ore, or river grass, and with half rotted wheat straw and chaff, and broken up with three small horses in a 19½ Minor and Horton plow, and plowed the depth of seven or eight inches, worked with cultivators until the corn was ten or fifteen inches high and then the furrow put to the corn, with a small one horse plow, and the corn worked late and with cultivators, to keep down the grass and have the land level for wheat seeding.

This corn crop will give corn and fodder and shucks enough to feed the family and stock all the year, will fatten us four or five thousand pounds of pork, fatten several beeves, fatten and raise 600 chickens and 150 turkeys, and still leave us 500 bushels to go market. Now my judgment is that it pays to raise corn in the manner described above.

A FARMER.

Calvert County, Md., Nov. 26, 1882.

Keeping Onion Sets.

Sets as well as large onions, according to the American Garden, should be kept as dry and cool as possible, without being actually frozen, although they are not injured materially by frost, provided they are not handled while frozen. If spread on a tight barn floor and covered thickly with chaff or cut straw they will keep well till spring.

THE MARYLAND GRANGE, it will be remembered, holds its annual session in this city in the hall of the Young Mens' Christian Association, beginning at 2 P. M. on Tuesday, December 12th. A meeting of much interest is expected and a full attendance. All fourth degree members are invited to be present.

The Grange.

National Lecturer's Communication.

SUBJECT FOR SUBORDINATE GRANGES FOR DECEMBER.

Question.—How can we best provide for the prosperity of our order for the coming year?

Suggestions—In selecting officers for the ensuing year, qualification and not favoritism should be the consideration. The important question is, who can and will serve the Grange to the best advantage and lead it to greatest prosperity? Decide upon the necessary missionary work in your jurisdiction; as to where, when, how and by whom to be done. Labor to secure a wide circulation of Grange papers, extend them into every farmer's family, renew your devotion to the order, attend all meetings and work for its advancement. Co-operate in all Grange work, and you will make your influence felt to your own advantage, and your efforts will show satisfactory results at the close of the year, and there will be no fear of dormancy or decline.

Question—How to employ the winter months on the farm for comfort and profit?

Suggestion—Secure house and cellar against frost, provide fuel and everything necessary, as far as possible, for home comforts. Farmers produce the wealth of the country, feed and cloth the nations of the earth, and no class can have greater claims for home comfort than they.

Give attention to proper care, shelter and feed for stock. Keep it healthy and growing. There is no profit if the loss in winter approximates the gain of summer. Prepare material for fencing, repair and rebuild fences before spring work sets in. Make calculations what and where to sow or plant summer crops. Get tools and teams in proper condition, and your plans well systematized. Much of the profits of next year's crops will depend upon winter preparation and systematized plan of operation.

Fraternally, H. ESHBAUGH,
Lecturer National Grange.

The National Grange.

This body assembled at Indianapolis on November 15th, and was largely attended, several States heretofore not represented having delegates, and many visitors being present.

The annual address of the Master, J. J. Woodman, of Michigan, was delivered on the first day. He said:

The year which is just drawing to a close, has been one of uncommon prosperity to the farmers of this country. The labors of the field have been "crowned with an abundant harvest," and general health and happiness prevail.

It has also been a propitious year in the work of our organization, as indicated by the reports of the Secretaries of the State Granges, recently received and compiled. There has been a decided increase, not only in the membership, but in the number of Subordinate Granges. Farmers and their families have been brought together, and made to know and understand each other better; light and knowledge have been disseminated through the influence of Grange meetings, the Press and Lectures; and error, distrust and prejudice, supplanted by truth, confidence and fraternal unity.

Agricultural schools have prospered, and agricultural science has taken an advanced step in many departments of husbandry. The principles and teachings of our Order have been more thoroughly and wisely discussed in the granges, at public meetings and by the press; and the interests of agriculture have received more attention and favor in the Legislative departments of the Government than ever before.

I am confident that the harmonious action, well digested measures, and practical work of our last session, has inspired confidence among our members, and strengthened the Subordinate Granges throughout the land. It has also removed prejudice, by making the principles which underlie our Order better understood, and consequently better appreciated. It has raised our organization to a higher plane of usefulness, enlarged its influence, and demonstrated to the world that this farmers' movement—the first of its kind that has ever come to the farmers' aid—is worthy the support, of not only every farmer in the land, but of every lover of good society, good government, and general prosperity; and that every well directed effort put forth by this body to elevate agriculture, by advancing the interests and bettering the condition of those who till the soil, cannot fail of success.

Let it not be forgotten that all there is of our great brotherhood is in the Subordinate Granges. There all strength and power lies, and from them all means for work, and all authority for action emanates. No member can be advanced to a higher position and maintain it if his record and standing in his Subordinate Grange is questionable. Whatever a majority of these Granges ask of this body through their representatives here, will be granted, as far as there is authority to act; and I can say with pride and satisfaction—whatever may have been said and written to the contrary, notwithstanding—that never to my knowledge has a petition, resolution or memorial been presented to the National Grange from any Subordinate, county or State Grange that has not been duly considered; and in no instance has the submission of an amendment to the Constitution of the Order, or change in the laws, been asked for by any considerable number of State Granges that the request has not been granted. It is right and proper for Subordinate Granges to instruct their representatives here; and I cannot believe that any members of this body, here, have ever disregarded the instructions of their State Grange. The government of our organization is a pure democracy, and in this its great strength and permanency rests. Every member stands upon an exact equality, all alike eligible to any office in the Order; and the higher degrees which are conferred in the State and National Granges are open and free to all alike. An organization based upon principles so just, with objects and aims which challenge the admiration of the world, cannot fail.

The great purposes which we aim to accomplish, cannot be too often repeated or too well understood. We aim to make the daily lives of men and women better, and nobler, and holier, and happier; to encourage education, social and moral culture, and a better development of the noble faculties of our natures; to provide for ourselves and families comfortable homes, unincumbered farms, and a fair remuneration for our labor; to beautify our homes and increase their attraction for our children, and their love for them and our profession, and thereby induce the boys to stay upon the farm; to prevent family jars, dissentions and separations; to lessen neighborhood strife and disagreements, and prevent litigation, by providing for the settlement of matters of difference between neighbors by arbitration in the Grange; to increase the profits of our farms by better cultivation, greater diversity of crops, closer study of the market and better understanding of the laws of trade; to "systematize our labor" and our business, and "practice economy in all things," discarding "the credit system, the mortgage system, the fashion system, and every other system tending to prodigality and bankruptcy;" and thus bridge over the chasm between labor and its results, with joys and blessings which make labor pleasant, healthful and honorable, and the laborer contented and happy; to encourage home manufactures and every branch of productive industry, bringing the producer and the consumer into the closest and most intimate relations, and thus create a home market for our surplus products; to encourage the building of railroads and canals, and the improvement of our rivers and harbors, and thereby secure cheaper transportation for our products to market; and to demonstrate to the world that agriculture is a science and a farming profession, and all who are engaged in it closely allied in interests and sympathy, and can co-operate in an organization for their own mutual benefit and protection, as well as those engaged in the other avocations in life. Such is a brief summary of the principal objects and purposes we are endeavoring to accomplish, and are accomplishing through the influence of our organization.

The Master urged support of the Press upon the Grange, advocating a Grange Organ in every State and the encouragement of all good agricultural papers, "for upon a prosperous and faithful press must we look for the strong arm that is to bear our heaviest burdens and help in every emergency, and for the constant and untiring teacher that instructs, encourages and educates."

THE LECTURE SYSTEM,

the Master said, has been greatly improved during the year; but yet there is great need of earnest, untiring laborers in many of the States. He recommended the extension into every State of a paid lecture system, where competent lecturers shall be employed, the State Grange paying their *per diem*, and those employing them their expenses.

OF CO-OPERATION,

W. M. Woodman said, it is better understood and more generally practiced than heretofore. In Texas alone there are nearly one hundred co-operative stores, all thriving.

He urged anew the passage of a law to elevate the Agricultural Bureau to a department of the Government with its secretary in the President's Cabinet, arguing against the opposition heretofore excited by the measure.

Some progress is reported in the matter of Legislation to correct abuses growing out of our unjust patent system. A bill has passed the House by a very large majority striking at the root of some of the most odious features of the present law, and every State Grange ought to memorialize the Senate for its passage.

In the matter of regulating transportation by just statutory laws, protecting equally the rights of railroad companies and of the people, little advance has been made. In the meantime "great corporations, absolutely controlling this vast interest, are daily becoming stronger and more imperious, until by the use of the power which the United States Senate Committee declared that they possessed and exercised, they have enslaved capital, corrupted and controlled legislation, intimidated courts, captured the telegraph, subsidized the press, and now seem to defy the Government itself."

EDUCATION.

There is no object so intimately connected with the welfare of our Order as that of education. Beginning with the infant mind just budding into life, which expands and develops under the influence of circumstances and surroundings, it continues to the end of life. Hence the necessity of correct examples, influences and instructions, not only in the family, but in our associations, and in the public schools. I need not discuss here the importance of a higher and more practical education for farmers' sons and daughters. No class of our people are better prepared to enjoy, or would be more benefitted by a well educated mind and heart than the cultivators of the soil; and no occupation in life is so well calculated to develop a man morally, mentally and physically as that of agriculture, or which requires closer study, deeper thought, or a greater need of the application of science to obtain practical results.

There is not a science known to the literary world that cannot be practically used by the tiller of the soil, and the more science that is brought to the aid of agriculture, the lighter its burdens and more pleasant and elevating the pursuit. This important question should receive due consideration.

CONDITION OF THE ORDER.

In twenty-six States the reports give a healthy and very much improved condition of the Order. Of the number of Subordinate Granges eighteen States report an increase, nine about the same, three a decrease. As most of these Secreteries have been long in office, and consequently have had long experience in the work of the Order, it occured to me that an expression of their views relative to what action should be taken by this body to strengthen the Order and increase its usefulness, would be of some value; and it is interesting to notice that three-fourths of those reporting ignore all other considerations, and concur in the opinion that the aim of all Grange legislation should be to build up the Subordinate Granges and increase the interest and attractiveness of their meetings. This conclusion is in harmony with the experience of all earnest workers in our cause. Where the meetings of Subordinate Granges are made interesting and attractive, there is no complaint of vacant seats, falling away of members, or dying out; but on the contrary, a higher appreciation of Grange meetings and a growing love for the principles of our Order is the result. But where Grange meetings are held as a mere matter of form, with no interesting discussions, literary exercises, and but little social recreation, the work becomes a mere routine, and members failing to be interested or to derive any real benefit from the meetings cease to attend, and the Grange becomes dormant or dies.

CONCLUSION.

It should be distinctly understood that every Grange is a school in which practical lessons are to be learned upon every question affecting the farmers' calling; and that every member is not only a pupil but an instructor; and in order to make these schools profitable they must be conducted upon practicable and common sense principles. Teachers and pupils must all be there, and officers must be promptly in their places and co-operate to carry out the lecturer's well prepared programme for the discussions and literary exercises. Every member should be encouraged to take part in these exercises and be prepared to do so. All questions relating to the farm and the household are profitable and inexhaustible themes for discussion, and can always be made interesting to every intelligent farmer; and questions of political economy directly affecting the farmer's interest may, and of a right should, be discussed, but not in a political or partisan sense or interest, but in that fraternal spirit which should always characterize every Patron, and remarks or insinuations reflecting upon the political or religious opinions of members should not only be carefully avoided but strictly prohibited. Such action seems necessary in order to arrive at truth and form correct conclusions, and thus be able to act together in harmony in every emergency affecting our common welfare.

All Grange meetings should be enlivened with singing and music, and time given for social recreation. They should be made so interesting and attractive that no member can afford to be absent from them; and the greetings of brothers and sisters should be so cordial that the humblest members, though poor and burdened with cares, should be made to feel and know that they are not doomed to toil through weary life, isolated and alone, without friends, sympathy, society, or hope of advancement, but that they are members of a great brotherhood, which extends into every State and every locality in the land, all united in sympathy and interest by ties which bind as gently as a silken thread, yet strong as a band of steel, all working for the same great object, THE EDUCATION AND ELEVATION OF AMERICAN FARMERS.

AGRICULTURE IN THE SOUTH.

Its Needs and Opportunities.

By TH. POLLARD,
Ex-Commissioner of Agriculture of Virginia.

In our last we were speaking of the great adaptation of Virginia, particularly the Piedmont and the mountain regions, to grape production and wine making: with the supposition that Maryland was also well adapted to this industry, on which point we shall be glad to have more definite information from our Maryland friends. We also stated that the Scuppernong is a great grape for North Carolina, where it is enormously productive We do not think we have mentioned one strong evidence of the superiority of the Piedmont vines of Virginia. At the last Paris Exposition (in 1878) the United States Agricultural Department requested the "Monticello Wine Company," of Albemarle, to send a specimen of their wine through the Department to this Exposition. An humble dozen was accordingly put up, labelled as manufactured by the "Monticello Wine Company, of Albemarle, Virginia." In the midst of pyramids of bottles, casks and demijohns, with no one to herald it or call attention to it, it received the only silver medal awarded for wines by this Exposition. From this time its reputation was established, and the orders for it are now more numerous than can be filled. This wine was a claret made from Norton seedling.

The demand for table grapes is yearly increasing with the population, and in every locality in Virginia and Maryland accessible to markets, we think they can be profitably raised. For table use there are some varieties it may pay to use, besides Concord and Norton Seedling, as Delaware, some of Rogers' Hybrids, which are large, fine grapes, but not very productive and not uniform in ripening, and Catawba, which flourishes in the mountain regions, but not in middle and tide-water sections. As to soil and localities for grapes, they do best on lands which are rolling and not too stiff, and on southern and southwestern exposures; but where it is wished to have some for late markets, northern and northwestern exposures are to be preferred. The banks of the Rhine, which are precipitious and rocky, and in many places terraced with artificially made earth transferred for the purpose, are filled with vineyards for miles. Those who wish to enjoy the luxury of the foreign grapes, Black Hamburgh, Black Prince, Muscat of Alexandria, the Chasselas, etc., must raise them under glass. The three first succeed best of the foreign grapes, but in the grapery attached to the United States Agricultural Department, some six or eight are successfully raised, and are produced, indeed, in great perfection. An instance of what may be accomplished in raising grapes under glass, is the famous Black Hamburgh vine at "Hampton Court," in England. The vine is as large as a man's thigh, and the roof of an immense glass house is covered by it in every direction, and when we saw it, it was loaded by magnificent bunches of grapes perfectly matured—bushels in quantity.

To those wishing a further insight into this subject, we commend an article in our number of November 15th, headed "Grape Culture Under Glass," read by John Eagan, before the New York Horticultural Society.

As to other fruits desirable to be raised in our latitude, we mention peaches for Piedmont and mountain regions, though the opinion at one time prevailed that *peaches* succeeded better in middle and tide-water. Such is not the fact, particularly of late years. In the latter they are much more frequently killed by frost, and much more subject to curculio (worms). In some of the Piedmont counties, notably Botetourt, peaches are being very successfully raised for canning. It has been found that peaches raised from the stone are much hardier and

more productive than those budded or grafted; the wood has been found to be harder and denser in structure, the fruit less apt to be killed by frost, and the tree was long lived. Raised from the stone, the fruit very generally comes true to name, though the nursery men deny this, and insist that their nursery trees should be bought and set out. We have had experience enough to speak with confidence on this subject. Peach raising has not proved profitable in middle and tide-water Virginia, from their frequent destruction of the fruit by frost and the insect diseases which affect them.

Damsons, we think, may be profitably raised for market. They are hardy, long lived, easily propagated from the scions which come up around the old trees, and may also be raised from the stones, and are very productive; they bear early, though not every year, seeming to be somewhat like apples, having their hitting years. They are always in demand for preserving and pickling, and bear a good price. *Plums* and *cherries* are scarcely worth raising for market, the former being destroyed to a large degree by the curculio, and both being too perishable for market. Of the small fruits *gooseberries* are the most promising. The markets are overstocked with strawberries of late years, and the raspberry is difficult to raise and requires favored localities, being killed both by summer's heat and winter's cold. The gooseberry does best on rich, loamy land, it bears well every year, particularly the "Houghton's Seedling" variety. Putting the plants 6 by 6 feet, we have upwards of 1,200 to the acre. At least six quarts may be calculated to each bush, which at 5 cents per quart would be 30 cents to the bush, and $360 to the acre. There is some difficulty in selling a large quantity of these berries, but they are not perishable, and will bear transhipment to northern markets. They are in demand for tarts and preserving, and will make a passable domestic wine if it is attended to, and kept over for several years. The bushes are not long lived, and require renewal every eight to twelve years. We have some more than ten years old, which have borne well *every* year, and are still bearing well, though they are much infested with wire grass. They are easily propagated and replaced by planting out cuttings, and taking up the small cuttings which form around the parent bush.

We do not think *quinces* will pay for marketing, because they are such shy bearers. It is said if they are well cultivated and fertilized by salt they will bear well, and some writer recently has said if they are wrapped with cloth from the roots to six inches above the surface they will bear well. Why, we do not understand.

We probably should have spoken of *pears* before some of the fruits named. But we have been so discouraged in their culture that we do not like much to talk about them. The great enemy to this fruit is *blight*. We have a large number of trees, of many varieties, but thus far have found them unprofitable. It may be that the *standard* varieties may hereafter be profitable, for an old, well established standard pear sometimes bears very largely, and it is long lived. The *dwarf* is short lived, and more delicate than the standard. Recently I stood in my pear orchard and counted twelve trees killed by blight, all in sight of one another. This disease of the pear seems unaccounted for and unexplained, and no remedy has yet been found for it. It occurs on all soils,* in all localities, whether dry or wet, whether the exposure is northern or southern, and whether the tree is cultivated or uncultivated. The only preventive that has suggested itself to me, is to plant those varieties most hardy and least subject to the disease, for there are such varieties. Among them we mention Seckel, Duchess d'Angonteme, Beurre d'Anjou, Laurence and Buffum. The two first are particularly exempt, and we have never lost a tree of either variety by the disease in question. The Buffum, which is a certain and great bearer, we had thought very hardy and not apt to blight, but this year we have lost two of them by the disease. We have tried for several years the remedy of lime and sulphur, recommended by Mr. Saunders, Superintendent of the Experimental Gardens of United States Agricultural Department, Washington, but have seen no preventive effect from it. I only used it once in the season; he says it should be used three or four or more times in the season, and that if the wash is kept constantly on the bark that the disease will not seize on that portion thus covered. The remedy is used on the supposition that the disease is fungoid, and that the sulphur and lime will destroy it, but this is theory, and, as we have said, no one knows the cause of pear blight.

Though the disease is so discouraging to the culture of pears, they have nevertheless been, in some localities and under certain conditions, very profitable. Mr. Leighton, near Norfolk, Va., has found them profitable and has succeeded admirably in their cultivation. At an exhibition of The American Pomological Society, held in Richmond some years since, his pears (Duchess) took the premium over the California pears, which were very fine. A lady near Norfolk, some years ago, it is said, derived a gross income from her pear orchard of $18,000. In the eastern portion of Maryland pears have been profitable. A gentleman from that section told me two years ago, that his pear orchard had been very satisfactory and remunerative, and he expected that year to realize a large amount from it, I forget how much. Franklin Davis & Co., have a large orchard (15 acres) of Bartletts in Surry county, Va., which are proving very profitable, with little blight. The Bartlett is considered one of the most profitable of all the pears for the market, though in many sections it blights badly.

In our article in a previous number, regarding grapes, we intended to say that our experience with them in this vicinity was very favorable. They are a certain fruit and are profitable for market. If we had a wine company in Richmond it would be profitable for the manufacturer and producer. We have tried almost all the varieties, except the newest ones (in all probability humbugs), and are convinced that Concord and Norton are the grapes for us to raise.

We hope to say something soon of the *opportunities* of the South.

*There is said to be some soils, particularly in Tidewater, Va., where the pear is not much subject to blight.

Some Vulgarities of "Good Society."

Asking questions, private and personal, is one vulgar habit; and telling your own business, which no one wants to hear, is another. Asking the cost of a present that has been made to you; "pumping" a servant to hear what has been given by way of parting vail; loud talking in public; hard staring at table; insolent disrespect to husband, wife and sister, or brother; showing temper in trifles and making scenes in public; showing an embarrassing amount of fondness and making love in public; covert sneers, of which people can see the animus, if they do not always understand the drift; persistent egotism which talks forever of itself, itself, only itself, and cannot even feign the most passing interest in another; detraction of friends, and it may be of relations—a husband telling of his wife's unpleasantness, a wife complaining of her husband's faults; the bold assumption of superiority, and the servile confession of infinite unworthiness; all these are signs and evidences of vulgarity—vulgarity of a far worse type than that which eats its fish with a steel knife, and says "you was" and "each of the men were." In fact, true vulgarity resolves itself into that central point of evil selfishness. The unselfish can never be really vulgar. They may be uncouth, but, they cannot be more; while the best topdressing of manner to be found in the whole world cannot make the substance refined, where that one foul canker of egotism and indifference to others lies at the heart of things.—*London Queen.*

The American Farmer

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☞ At the office of THE AMERICAN FARMER are located the offices of the following organizations, of each of which its proprietor, Wm. B. Sands, is secretary:

Maryland Horticultural Society.
Maryland Dairymen's Association.
Maryland State Grange, P. of H.
Agricultural Society of Baltimore Co.

Also, of the **Maryland Poultry Club,** Thos. W. Hooper, Secretary.

BALTIMORE, DECEMBER 1, 1882.

The American Farmer for 1883.

We trust the present subscribers and friends of the THE FARMER will begin in season to renew their subscriptions and get up their clubs. We hope in many directions to improve the paper for the coming year and to keep fully abreast of the times in everything which goes to the promotion of agricultural advancement, and no endeavor will be lacking on our part in the future to make the Old Pioneer not only a welcome guest, but a helpful adviser in every farm household into which it goes. The best talent will be found hereafter, as in the past, in charge of the several departments and we rely upon the host of accomplished and successful men and women who contribute from their experience to our pages to maintain and extend their correspondence. Our terms will remain as heretofore, $1.50 a year, or $1 per copy for clubs of five or more.

Our prospectus and a varied list of premiums offered for subscribers, as well as specimen numbers will be sent to all who will interest themselves in behalf of THE FARMER in their respective neighborhoods.

The Agricultural Society of Baltimore County.

The following gentlemen have been elected as the Board of Managers for the ensuing year: Wm. D. Brackenridge, Col. W. S. Franklin, Samuel Brady, John Ridgely of H., Col. D. M. Matthews, James Pentland, Samuel M. Rankin, Wm. S. Carroll, Robert S. Corse, Samuel M. Shoemaker, Thomas B. Todd and Edward Austin; and the Board has organized by electing Col. W. S. Franklin, President, and William B. Sands, Secretary and Treasurer.

Sales of Jersey Cattle from our Baltimore County Herds.

We have to record sales made by our Baltimore county breeders of Jersey cattle as follows:

By Messrs. Watts & Seth.—Bull calf Prodigious, sire Cockswain 2d, dam Holly Twig, to W. G. Upchurch, Esq., Raleigh, N. C. This calf secured first honors in his class at our county show, and again at the Washington County Fair, and he is brother to Mr. Vonkapff's fine yearling bull Normanby 2d, that took first also in his class at the above named fairs. Bull calf Arawana Rex, sire Cash Boy, dam Arawana Buttercup, so well known to our readers.

Heifer Rival's Flora, sire Rival, dam Flora of St. Peters. This heifer took second prize in her class at the Baltimore County and Maryland State Fairs of 1881. Heifer calf, sire Champion Rex, dam Champion's Inda, that took first prize in yearly class Maryland State Fair 1881. The only time ever exhibited. These last three were all sold to Mr. S. Miller Williams, of Cresswell, N. C., who is founding a herd.

By Mr. F. Vonkapff, also to Mr. Williams.—Cow Stella La Broq 3d, that took first prize at Maryland State Fair, 1881. Not since exhibited.

Mr. Andrew Banks sold at the Baltimore County Fair Grounds, to Mr. Edward Austen, Glencoe, Md., heifers Oonah of Chatsworth, Dawn of Chatsworth, Rex Darling, and the bull Hercules of Chatsworth, as the foundation of a herd; also heifer Frau Ilse, that took the Wagner medal at the County Fair, to Mr. J. C. Stribling, Pendleton, S. C

Messrs. Clarke & Jones sold to same party, at same place, heifer Rival's Jewel, also a bull calf to Georgia, name of purchaser not known, the details of which we have not at hand.

Altogether, our breeders report an improved demand, but supply very limited. Indeed, car loads of young Jersey females could be sold from Baltimore county if they could be got.

Mr. F. Vonkapff has just added to his already fine Stoneleigh herd, bull sired by Gold Basis, a son of the celebrated Gilderoy and Regina 2d, winner of first prize at Royal Jersey Show, 1882, and who made a butter record of 14 lbs. 8 ozs. in 7 days. Gold Basis is the full brother to Chrome Skin, who made 9 lbs. 8¼ oz. in 3½ days. at three years old.

Look to the Implements.

We desire, at this season of the year, to say that it is a lamentable fact that many farmers lose as much from a want of proper care of implements and machinery as from the actual wear-and-tear of them. Repeated wetting and drying injure sooner or later, any kind of wood work; the moisture getting into the cracks soon begins the work of decay. This may be prevented by the timely and occasional application of some cheap paint. Much has been said and written upon the value of tool houses, and it is hardly necessary for us to add our mite to the general array; but providing a tool-house is not all that should be done, if the shovels, spades and forks are brought into it with the dirt sticking to them, and in that condition are allowed to remain through the winter, or until they are again needed. All practical farmers know how much better a bright plow turns the furrow, how much easier it is on the team and driver, and yet they will bring their plows and harrows in every fall with the dirt thick upon them, and let them be so until again wanted, entailing a great deal of injury.

There are various mixtures which might be applied to the iron to prevent rusting, the cheapest of which is common (*unsalted*) grease. A better article may be formed by melting together six pounds of fresh (not salted) lard and two of rosin. An old iron pot is a good thing to keep and compound the mixture in.—*Telegraph.*

Home Department.

Fretfulness.

"This world is not so bad a world
As some would like to make it,
But whether good, or whether bad,
Depends on how we take it;
For if we fret and scold all day
From dewy morn till even,
This world will ne'er afford a taste,
A foretaste here of heaven."

The little word "fret" is, I believe, as concise an expression of a variety of phases of the human temperament as any one word in our language is capable of giving. The unabridged dictionaries give us some idea of the different applications of it, but when we turn to "Roget's Thesaurus," the renderings of it are appalling; like a magic mirror, it reveals to all who look into it their own tendencies in that direction. We may seek to delude ourselves into the belief that whatever our defects may be, we are at least free from this contemptible habit, yet few of us who honestly weigh ourselves in the same scales we use for other people's virtues or vices, will fail to find some grains of it in our own composition.

I trust by holding a few commonplace features of this unpopular trait up to view, some of us may be led to wrestle with those we may recognize as belonging peculiarly to ourselves.

Although this is a concise expression of a bundle of tracts, it is the most unpopular of them all; most people would rather be accused of "complaining," "fault-finding," "worrying," "scolding," "discontent," "swearing," or any other of the multitude of forms it takes, than to be said to fret. It is an outward and visible expression of inward dissatisfaction, and be the cause what it may, it stamps itself upon the countenance, infuses itself into the tones of the voice, and shapes the speech in a way that renders the most trifling utterance disagreeable to the listener.

Often, no doubt, there may be just cause for dissatisfaction, but whatever the cause may be, whether fancied or real, I will venture to say, it was never mended by fretting; this may subdue the evil temporarily, but it never cures it.

The man who habitually frets at his wife and children, usually through their desire to avoid disagreeable scenes, obtains a degree of deference to his own peculiar views or demands, but I can assure him that he gains only that; a cordial desire to please him will be wanting, and his absence will oftener give pleasure than his presence.

This condition of things must, in time, be uncomfortebly felt by himself, and the probabilities are, that instead of seeing and overcoming the cause of it he will, through a most natural process, develope into a confirmed "growler." If there chance to be some element of grace in the rest of the family, and his position is by right one of importance, the "growler" may have the best of everything put before him, his chair and his slippers may be scrupulously set in the most comfortable place, but the social home circle will not include this member. The rest may find a way to make their own enjoyments, but he can only wrap himself up in his personal comforts and feed upon his ill humor.

While this is anything but a pleasing picture of the male "fretter," the habitual "fretter" of our own sex can throw it quite in the shade. Whatever our station or position is, be it mother, wife, daughter or servant, rich or poor, by virtue of our sex we constitute far more of the element of home life than the male members of the family, and as the family is a small edition of society, it may, without egotism, be claimed that our influences in the social world predominates; hence, whatever is deplorable in a man becomes proportionally more so in a woman.

This internal rebellion against any of the circumstances of our lives, which expresses itself by fretting, is the most powerful instrument used by the common enemy to undermine the good which falls to our lot. Nothing we possess will satisfy us if we *allow* ourselves to be wishing for something different, and this *wishing* is the most common form fretfulness takes. We "wish we could have things as other people have them;" "could do as other people do;" that our husbands, fathers or brothers "were like other people's;" "that our children were not the worst in the world," all of which blinds us to the fact that our lot is probably far better than that of the average woman in our midst, that our blessings are more than we can count, and that we would not give anyone of those much berated children for all the good things we covet. It leads to taking the gifts from the Giver of all good without appreciating them, and also to accepting the best efforts of our daily provider in an unbecoming spirit. It is no uncommon experience for a husband who seeks to surprise a fretful wife pleasantly, by some offering of his own chosing, to have her accept it ungraciously, because it is not just what she would herself have chosen, forgetting that the spirit which prompted the gift is of far more consequence than the gift itself. The husband who may be unpunctual in coming home at mealtime, very probably gives his family a good deal of unnecessary trouble, but sour looks and fretful words will hardly make him more considerate for their convenience; reasonable remonstrance at the right time is more likely to have the desired effect, and will not weaken their hold upon his affections, as fretting invariably does. Should husbands prefer other society to ours, it is not probable we will make ourselves more attractive to him by fretting about it; sometimes it might be better worth our while to find out what it is that draws, or drives, him away from us, and conform ourselves somewhat to the situation, rather than to greet him with complaint and reproach. If we desire any good thing, it is better to try how it may be legitimately gained than to waste time fretting over it.

It is within the home circle this habit of fretting is most freely indulged; whatever restraint outside associations require to be put upon us in this, or any other discourteous proceeding, is too often laid aside at home, and the worst effect of such liberty, in regard to fretting, is usually between parents themselves and between them and their children. Sympathy between wife and husband is utterly extinguished by habitual fretting, and any attempt at discipline by the parents, which is conveyed through systematic fretting, is more than useless, since it must destroy all filial respect and secures no obedience to their wishes out of their sight.

Fretting at and about servants is about as unreasonable and unreasoning a form as this evil ever takes, because of the loose hold we have upon them and the corresponding carelessness of results in all our dealings with them, so long as we have complied with the letter of our agreement. Our actions towards them are too often based upon the fact that they can "clear out" if they don't like it, and we can easily fill their place. It may be a low taste, but I confess to setting a high value upon the "*character*" my servant gives me, because no one else outside of my immediate family can have such opportunities to study it, and judge me fairly.

But in regard to fretting at them, it is as unwise as it is cruel. The ignorant class that usually serves us, cannot rise above this meanness of ours, and taking it for what it is worth, go about their business as employees of a higher grade often are compelled to do, but they usually grow indifferent to our interests and become worthless. It is cruel, because nine times out of ten a regular "fretter" is unjust, and also because our words and actions weigh much more with them than with those of our own class, and while they are with us we make so much of their happiness or unhappiness. To keep them continually under a cloud by the indulgence of a pernicious habit is simply inhuman.

Fretfulness that arises from ill health is as near pardonable as this evil can be, but even this should be fought against and, as far as possible, overcome; because we are miserable ourselves must we make those about us miserable too? Those who continually hold up their ailments to gather sympathy, make a great mistake. It is the quiet, patient sufferer who appeals to us most effectually. No moral malady writes itself more plainly and indelibly upon the countenance than a fretful temper, especially in early years, while it may be said to be in its formation stage, therefore if we have any desire to make our presence agreeable to others we must beware of stamping fretfulness upon our faces.

CERES.

Woman's Work in Farming.

A certain wicked but witty jurist, whenever a culprit was brought before him for trial, invariably asked: "Who is the woman in this case?" A slight measure of truth underlies this repartee, as indeed, must be the case under all satires on weak human nature, else they would not be so keenly felt. The broader and more comprehensive truth in this connection is that woman is really the basis of most that is good and successful. There is scarcely a leading business man in any vocation who will not gratefully acknowledge his successes as being in large part due to his wife. In no occupation is this more apparent than in that of the farmer. All over the country the men who have succeeded in accumulating competency or wealth in farming have had sensible, industrious and economical wives. Because woman does not work in the fields is no reason that her services are not important. On large farms the master himself often does little of the manual labor. He can hire it performed nearly as well as he can do it himself, while his services in overseeing the proper performance of the work are worth far more than anything his own hands are capable of performing. In this labor of supervision the wife's services are quite as effective as those of her husband.

There are several leading departments which, by common consent, are relegated to the sphere of the wife. Embraced in her special department is the management of the household expenses, and, unless dairying is made the chief business of the farm, she has usually the entire care of the dairy. A story is told of one of the early pioneers in a new country who, with his wife, commenced farming on a tract of 100 acres of wild land, only partially paid for. Year after year they prospered, the 100 acres was paid for, in large part, by the hard-earned money which the wife had secured through sales of butter and cheese. Again and again the question was asked by the husband, "Shall I buy another hundred acres?" and the answer by his good wife was always ready and always the same: "Get me fifteen more cows and you may safely buy the land." When, in their old age, a fine farm of 500 acres was fully paid for, the wife could rightfully boast that it was her labor, quite as much as that of her husband, which had paid for their broad acres. The law, which has been called the perfection of human reason, partially concedes the rights of woman in securing one-third of all real estate to the widow for her use during life, and making it impossible for a married man to alienate their home, by sale or mortgage, without his wife's free signature.

More men would have remained prosperous owners of farms, now lost through bad management or other improvidence, if they had listened to the advice of their wives. A faithful wife is in every situation the best counsellor her husband can have. In farming she is usually the conservative partner in the direction, dissuading against extravagant expenditures and doubtful experiments. It may be and doubtless is otherwise in cities, but girls born in the country and accustomed at their father's fireside to hear the failures and successes of their neighbors discussed, are often more economical than their husbands. The latter, associating with other men, often have their heads turned, if they are not themselves misled into questionable and extravagant habits. It may seem to the farmer, as he reluctantly counts out the dollars, which his wife has often to fairly beg of him, that his better half is very extravagant. In nine cases out of ten, however, if he will figure up the useless and often injurious expenses incurred by himself, the sum will amount to more than his wife's allowance for necessary personal expenses. The fact that the husband is more frequently away from home than the wife perhaps gives greater occasion for the expenditure of money, yet even this does not change the importance of a mutual understanding concerning money matters.

The power which a farmer's wife may exercise in the domestic economies of the farm carries with it responsibilities as well. It is her duty in every way to fit herself to become a judicious helpmate and counsellor. The farmer's club meeting should be open to the wife and the daughter, as well as to the farmer and the son. Not frequently the little improvements made at trifling expense, through the influence of the wife's taste and tact, add more to the value and attractiveness of the home than many times the money cost invested in the husband's management. In all the suggestions as to making farm life attractive to young men there is none better than to enlist the hearty cooperation of their mothers and sisters. They will point out to the youth the ideal and æsthetic side of the farmer's work, while if he learns farming wholly from his father, he is apt to learn it only as a life of prosy and poorly paid toil. Without disparagement to agricultural newspapers or farmers' clubs, we may say that the wife and family are, or should be, the farmer's best advisers. They know or should know all the circumstances of his position, and if the wife's advice be followed the farmer will usually be the gainer. She may, at least, demand an equal voice in matters which interest her quite as much as they can her husband. She knows better than he the expenses of household management, which are increased or diminished by different methods of tillage or the various systems of farm economy.—*Am. Cultivator.*

Cheap Paint.

One of our correspondents enquires for a recipe for making cheap paint, and we cannot do better than give Prof. Knapp's experience as to the durability of paint composed of three parts crude petroleum and one part linseed oil, with mineral paint for body. Five buildings and considerable fence upon the Iowa Agriculture College farm have been painted with this preparation. Upon some of them it has been one year, and thus far it has appeared to be fully equal to more expensive paints, in body, in durability and in retention of color. It is especially adapted to cheap out-buildings, covered with rough boards. If twenty-five pounds of white lead be added to each hundred pounds of mineral paint, the mixture answers a very excellent purpose for tenement houses. Many experienced painters have examined the buildings covered with this paint, and affirmed that it made a better covering than pure lead and oil. This is doubtless an extreme view. It may, however, fairly be considered as a reliable paint for protection of the fences and the cheaper farm buildings.—*Ex.*

Drainage Around the Dwelling House.

The neglect to properly dispose of the waste water from our dwellings, is the cause of much sickness and many premature deaths. Man with all of his boasted intelligence, often displays less wisdom in the selection of a location for his home, than the beasts of the forests, or the insects of the field. How often it is that fabulous prices are paid for building lots, that are on streets near to business centres, though such lots are but basins to catch the water from the surrounding territory. Such locations can never be made healthy, for it is not only impossible to prevent the drainage of the surrounding dwellings from settling around the house, but it is much more difficult to provide for the proper disposal of the waste water of the dwelling, than if the house was built on an elevated lot. In such localities, it is almost impossible to sink a well where the water will not be contaminated by the drainage of the surrounding territory.

The wise man will endeavor to select a location for his home where the soil is dry, and sandy or gravelly, and also one that is slightly above the surrounding territory; in such locations he will have no fears of any underground impurities from any source, except from his own dwelling; this he must look after; he must avoid committing the grave error committed by some, of digging a blind well and filling it with stone for the waste water of the house to settle in, and eventually find its way to the drinking water in the well.

The safest way to dispose of the waste water, is to build a few rods from the house a stone vault, say eight feet square and three feet deep, covering it tight with a wooden top made in sections to be easily removed; into this lead the water pipes from the house which should have a descent of at least one foot to each rod in distance. To keep the vault perfectly sweet, dry muck should always be kept on hand, and put in as often as needed. In this way the impurities of the house may be safely disposed of at a trifling expenditure of time, and at the same time secure at the end of each year, one or two cords of a very valuable fertilizer. Where hard coal is used, instead of wood, the ashes may be used as an absorbent in connection with the muck to very good advantage, and by thus using it, it is disposed of, where it is out of sight, and out of the way.—*Mass. Ploughman.*

Domestic Recipes.

Ox-Tail Soup.—In order to make this fine soup take two ox-tails, cut them up, dividing them at the joints; put them into a stewpan with a large piece of butter and fry them slightly; then add to them three quarts of good beef stock, a tablespoonful of salt, a dozen whole peppercorns, a bunch of parsley and thyme and a bay leaf, together with a carrot, a turnip, a head of celery, and two or three onions, all in slices; simmer them until the meat becomes quite tender and loose upon the bones; then take them out and put them into your tureen; strain the soup through a hair sieve, put it over the meat and serve hot. If water is used instead of stock, another tail will be required, and it should be put in unfried, in order that it may yield its juices; thicken the soup with browned flour.

Apple Pudding.—An excellent and delicate apple-pudding is made by the following directions: Mix two tablespoonfuls of arrowroot with one pint of cream—do not use milk if you can possibly get cream; stir in two tablespoonfuls of sugar; let this boil gently, stirring it constantly for three or four minutes, not longer; meanwhile slice some tart apples very thin, and put in a pudding dish, with sugar and little lumps of butter between the layers of apple. When the arrowroot and cream have done boiling, pour them over the apples, and set the dish in the oven; with even and moderate heat the pudding will need to bake for half an hour, though not longer. If you have been as generous as you should have been with the butter and sugar, no sauce is required or expected with this pudding.

Fritters.—Make fritters quickly and beat thoroughly. A good rule for them is two eggs, one half-pint of milk, one teaspoon of salt, and two cups of flour; have the lard in which to cook them nice and sweet and hot. The proper heat may be tested by dropping into it a teaspoonful of batter; if the temperature is right it will quickly rise in a light ball with a splutter and soon brown; take up carefully the moment they are done with a wire spoon; drain in a hot colander. Pork fritters are made by dripping thin bits of breakfast bacon or fat pork in the batter; fruit fritters by chopping any kind of fresh fruit and mixing it with the batter. Apple fritters are made by three eggs beaten very lightly, and added to one quart of milk; make a thin batter; add a little salt and the grated rind of one lemon; pare, core, and slice thin one quart of nice, tart, easily-cooked apples; and drop in spoonfuls in boiling lard; serve with sauce.

Cold Slaw.—Chop half a small cabbage very fine; put in a saucepan half a teacupful of vinegar, half a teaspoonful of salt, and the same quantity of pepper, and a well-beaten egg, a piece of butter the size of a butternut, three-quarters of a table spoonful of sugar; stir well; when it begins to thicken pour in cabbage, and cook until the cabbage is tender, stirring all the time to prevent burning. This is one of the best and most wholesome ways of cooking this vegetable, and this will give a piquant relish to an otherwise commonplace dinner.

Snow-Ball Pudding.—Take two teacups of rice, wash and boil tender. Pare and core twelve large sour apples, leaving the apples whole. Fill the apples with rice, and put it around outside. Tie each one in a separate cloth and drop in boiling water. Serve while hot with cream and sugar, or any sauce desired.

Simple Remedies.

Felons, which are usually termed "White-low" by physicians, we believe, are a very painful and often very serious affection of the fingers, generally of the last joints, and often near or involving the nails. As the fingers are much exposed to bruises, felons are quite common among those who constantly use their hands at hard work. If allowed to continue until matter (pus) forms, and the periosteum or bone sheathing is affected, lancing is necessary; but if taken in time, a simple application of copal varnish, covering it with a bandage, is highly recommended. If the varnish becomes dry and unpleasantly hard, a little fresh varnish may be applied from time to time. When a cure is effected, the varnish is easily removed by rubbing into it a little lard and washing with soap and water. Dr. A. B. Isham details, in Medical News, a number of cases of its application with uniform success, where formations of pus had not previously occurred. In two cases there was apparently a combination of the "run-around" with the felon, and in all of them there was swelling, redness, heat, and great pain. He suggests the use of copal varnish for felons, run-arounds, boils, and any local acute inflammation of external parts.

For burns and scalds nothing is more soothing than the white of an egg, which may be poured over the wound. It is softer as a varnish for a burn than collodion, and being always at hand can be applied immediately. It is also more cooling than the sweet oil and cotton which was formerly supposed to be the surest application to allay the smarting pain. It is the contact with the air which gives the extreme discomfort experienced from the ordinary accident of this kind, and anything which excludes the air and prevents inflammation is the thing to be at once applied.

The Apiary.

More Honey Wanted.

Some thirty or forty years ago there was much more honey produced in eastern Pennsylvania, and especially in the counties contiguous to Philadelphia, than there is at the present time, and we may ask why less attention is bestowed upon this really important branch of industry now than before? It cannot be on account of the price obtained, for that is higher now than we believe at any former period. One person, who had abandoned the business, said that the bees made less honey than formerly, in consequence of the scarcity of the clover-fields and other feeding resorts of the bees; but this can hardly be, as while it is an undecided question that the cultivation of clover has fallen off, the increase of other bee-pastures has clearly taken place. Take for instance the marked increase of flowers in the garden, of every farmer, as well as the increase of vegetable crops, many of which put forth immense quantities of blooms. There are many of the cultivated trees also that flower enormously, and far more than make up for all the other losses combined. We rather think that the nice extra care that bee-culture requires over other business to produce the same amount of income is the cause of its decline. The honey-culture, in fact, is a science, and should inspire in those who pursue it a love for it outside of the profit account, and in this case the enjoyment which it imparts must be considered as a part, and a very desirable part, of the returns.

The improved hives, which have taken the place of the old, cumbrous ones that were so awkward in handling and failed to yield an equal supply of honey when compared to these remodeled ones, make the care of bee-keeping much easier and pleasanter. The small glass apartments, each holding two or three pounds of honey, which go with their disposal, make the article much more salable than formerly, though they require careful handling. The bees have a way of hermetically sealing the combs, and if these are kept intact the contents will remain for years undiminished in quantity and unimpaired in quality. If, however, the combs become cracked for want of care in packing, handling and transporting, the sweet store crystalizes and becomes opaque and unmarketable, though not very materially injured. Altogether, with due care and with a proper managements of this beautiful and interesting branch of domestic industry, the apiary will be found upon a dozen farms where it is now found only upon one.—*Germantown Telegraph.*

Baltimore Markets, December 1.

Flour.—Market quiet. We quote: Howard Street Super, $3.25@3.75; do. Extra $3.87@4.50; do. Family $4.75@5.75; Western Super $3.25@3.75; do. Extra $3.87@4.50; do. Family $4.75@5.75; City Mills Super $3.50@4.00; do. Extra $4.25@4.75; do. (Rio Brands) Extra $5.75; do. Fancy Brands $6.50@8.00; Baltimore Pearl Hominy $4.40; Corn Meal per 100 lbs. $1.40; Baltimore Chop $1.16@1.20; Buckwheat Meal $3.50@3.75.

Wheat.—Market active for Southern and Western. We quote: Longberry 110@110c.; Fults 103@106c.; Steamboat 85@106c.; Spot and December 107c. January 109¾@109¾c; February 111¼@111¼c.

Corn.—Trade dull. We quote: White, soft to prime, dry, 50@63c; Yellow, soft to prime, dry, 57@73c; Year corn 66@66½c.; January 63@63½c.; February 60¾@60¾.

Oats.—Market ruled quiet and steady. We quote: Western mixed 41@43c.; do. White 44@46½c.; Pennsylvania, Maryland and Virginia 42@46.

Hay and Straw.—Market is firm, prices improved and the demand steady. We quote: Choice Cecil county Timothy $18@19; New York and Western $15@16; Maryland and Pennsylvania $14@15; mixed $12@15; Clover $12@13. Straw is quoted at $8@9 for Wheat; $11@12 for Oat; $12@13 for long Rye, and $10 for short do.

Mill Feed.—Western Middling $20; Bran $18; City Brownstuff and Middlings $19 per ton.

Butter.—Firm and active market. We quote: New York State choice 30@33c.; Creamery fancy 37@38c.; do. prime to choice 35@36c.; Western choice 24@27c; do good to prime 20@22c.; Near-by receipts 18@23c.; Ohio choice 25c.; do fair to good 20@23c.; Choice Glades 25@27c.; Oleomargarine 20@22c.; Butterine 21@23.

Provisions.—The general tone of the market is less depressed. The jobbing trade is moderately active. We quote packed lots from store as follows: Bulk shoulders, 8½c.; clear rib sides 10½c; bacon shoulders 14½c; do clear rib sides 14c.; hams 15c.; lard, refined, tierces, 12½c; mess pork, $20.50 per bbl.

Dried Fruits.—Market fairly active. We quote: Cherries 19@20c.; Blackberries 6½@7c; Raspberries 27@28c.; Whortleberries 11@12c; bright sliced Apples 6@6½c.; fancy sliced 7@7½c; fair do do 5@5½c.; bright quarters do 5@5c.; Peaches 4 to 14½c.

Poultry.—Old Chickens 9@10c. per lb.; young chickens 10@11c.; Ducks $3.00@3.50 per doz.; Muscovies $4.50@5.00; Geese 50@65c. each; Turkeys, dressed 14@15c. lb.; Turkeys, live 12@12½c.

Eggs.—We quote: Fresh stock 29@30c. doz.; picked 26@28c.

Seeds.—Clover seed 8@9c; Orchard grass $1.50; Red top $4.25@4.50 per sack of 5 bushels.

Wool.—Market is dull and prices are lower. We quote: Unwashed 25@28c.; Tub washed 34@36c.; Pulled wool 28@30c.; Fleece-washed 38@40c.; Merino unwashed 25c.

Tobacco.—*Leaf.*—We quote: Maryland inferior frosted $2.00@3.50; do. sound common $3.50@4.50; do. good common $4.50@6.00; do. middling $6.00@8.00; do. good fine red $8.50@10.00; do. fancy $10.00@15.00; upper country $4.00@10.00; do ground leaves $2.50@8.00.

Cotton.—The market is easy and prices are lower, though closing rather better in the speculative lines. We quote as follows: Middling 10¾@10¾c.; Low Middling 9¾ cts; Strict Good Ordinary 9¼cts.; Good Ordinary 9cts.; December 10.26; January 10.29; February 10.40; March 10.50; April 10.61; May 10.73; June 10.85; July 10.95; August 11.05

Live Stock.—*Beef Cattle.*—Market fairly active. We quote: Best $5.75@6.40; that generally rated first quality, $4.62½@5.50; medium or good fair quality $3.75@4.50; ordinary thin steers, oxen and cows, $2.50@3.24; extreme range of prices, $2.50@6.40. Most of the sales were from $3.75@5.25 per 100 lbs. *Hogs.*—Prices are off a full ½c from the figures of last week, with a moderately fair demand at the decline. Prices of Rough Stags and Sows are 8@8½c. and the better grades at 8¾@9¼c. with very extra heavy 9½c per lb net. *Sheep and Lambs.*—There is no outside demand for sheep of any kind or lambs worthy of mention, and only a moderately fair demand on the part of home butchers, consequently trade is very tame. We quote butcher sheep at 3@5c. and lambs at 4@5¾c. per lb gross. Stock sheep $2.50@3.50 per head for ewes and weathers 4@4¾c. per lb gross.

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The demand for graduates in agriculture is much greater than the supply, and there are many paying situations that can be filled only by graduates of agricultural colleges. To meet this demand there is now at the Maryland College, a winter course, under the direction of Prof. Wm. P. Headden, Ph. D., of New Jersey, who studied under Fresenius, at Wiesbaden, graduated at the University of Giessen, and was late assistant in the chemical laboratory of the University of Pennsylvania. He is master of his department.

You may enter now and devote your entire time in preparing for active field work in the spring, or graduate with the prospect of more extended fields in the future. Lectures upon geology, mineralogy, zoology, botany and kindred subjects in agricultural science, aided by the laboratory and the museum, with or without field practice, come within the scope of this special course.

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The seniors are in charge of the garden; the juniors of the flower grounds and green-house; whilst sophomores and freshmen are working daily upon the farm.

Field studies of all plants of this climate, with a view to information, have been organized and will be published.

The course in higher mathematics is in charge of Prof. C. C. Norwood, post graduate of Johns Hopkins University, who comes with the endorsement of distinguished scholars.

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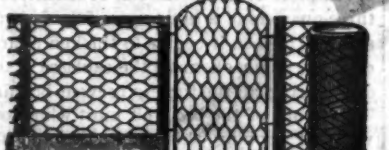

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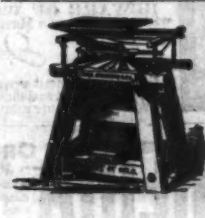

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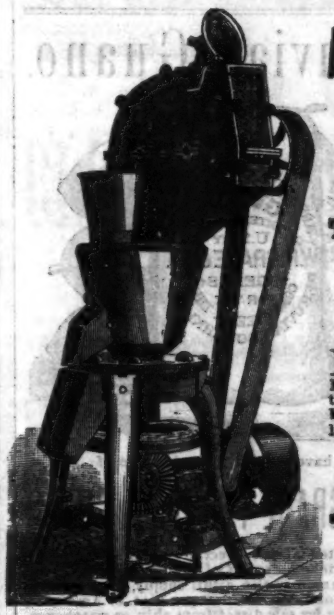

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LIST OF LOSSES PAID UP TO OCTOBER 16, 1882.

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Chas. G. Blumhardt...	Wilkins Street,.....Baltimore.	February 17, 1882	February 18, 1882.	$188 00
John Decker.....	214 Columbia Av..... "	March 27, "	March 27, "	113 00
J. Kraus.....	30 Barre Street..... "	April 29, "	May 2, "	128 00
Dr. J. H. Kelley.....	Locust Grove, Kent Co., Md.....	May 9, "	May 11, "	50 00
Frank Laure.....	267 Aisquith Street....Baltimore.	June 5, "	June 7, "	0 00
Wm. J. Chapman.....	York and William Sts. "	June 3, "	June 14, "	169 00
H. C. Coburn.....	2425 K St., S. W. Wash'n, D. C..	June 9, "	June 15, "	17 00
Jas. Barnes.....	Woodlawn, Cecil Co., Md.....	June 19, "	July 10, "	188 00
John Kerns.....	692 W. Fayette St.....Baltimore.	June 13, "	July 11, "	75 00
Chas. J. Linderman...	347 S. Broadway..... "	June 27, "	July 15, "	150 00
George Schultz.....	Calverton & Balto. Sts. "	June 12, "	July 14, "	75 00
Wm. J. Schneider.....	229 E. Capitol St., Wash'n, D. C.	June 30, "	August 8, "	120 00
Smart & Hittle.....	4 & 6 Hollingsworth St., Balto...	August 15, "	August 22, "	188 00
Thos. Skinner.....	3 Light Street.....Baltimore.	August 9, "	September 11, "	56 00
S. B. Sexton & Son....	115 W. Lombard St..... "	July 16, "	September 18, "	60 00
M. Ottenheimer & Son	233 Frederick Av..... "	July 18, "	September 20, "	150 00
Wm. H. Kline.....	Orangeville, Md.....	July 24, "	September 29, "	90 00
Chas. F. Merrick.....	Clifton, Baltimore Co., Md.....	July 28, "	September 24, "	100 00
John Daly.....	408 P. St., N. W. Wash'n, D. C..	July 21, "	September 21, "	135 00
M. B. Phelps.....	Clarksville, Howard Co., Md.....	September 14, "	September 23, "	225 00
John Schone.....	Gardenville, Md.....	July 27, "	September 26, "	120 00
L. H. Gadd.....	Denton, Md.....	July 28, "	September 28, "	225 00
Chas. W. Brown.....	37 Columbia Ave.....Baltimore.	August 1, "	October 1, "	113 00
Louisa Meister.....	Butcher Lane..... "	August 3, "	October 3, "	113 00
Wm. R. Beatty.....	247 Bank Street..... "	August 4, "	October 4, "	113 00
John A. Leits.....	50 S. Schroder St..... "	August 5, "	October 5, "	90 00
Wm. L. Unger & Co...	Druid Hill Ave. & Biddle St. Balto	August 7, "	October 7, "	113 00
James Moan.....	236 Harford Ave..... "	August 7, "	October 7, "	225 00
Thomas Strohm.....	87 Patterson Ave..... "	August 11, "	October 11, "	188 00
Brown & Graves.....	84 South Street..... "	August 14, "	October 14, "	150 00
Chas. A. Dunning.....	Denton, Md.....	August 15, "	October 15, "	128 00
		TOTAL AMOUNT, - - -		$3,927 00

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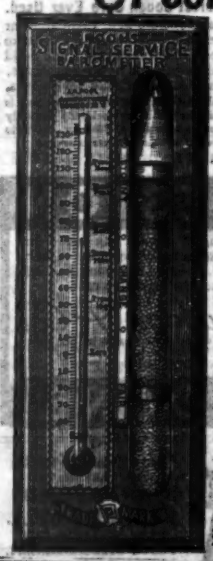

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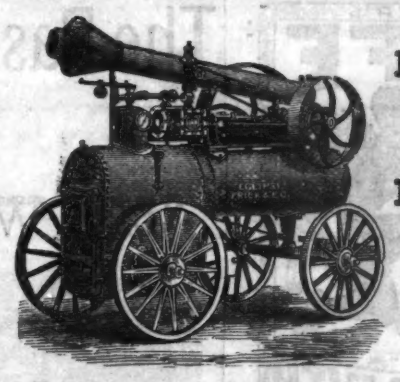

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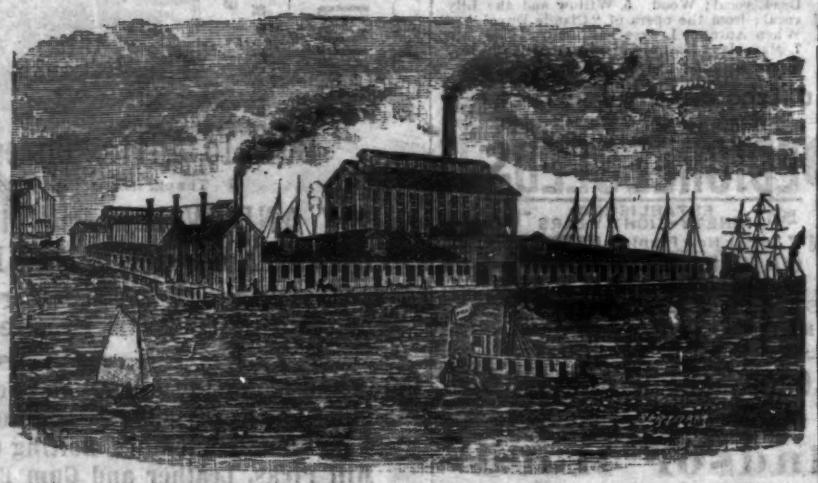

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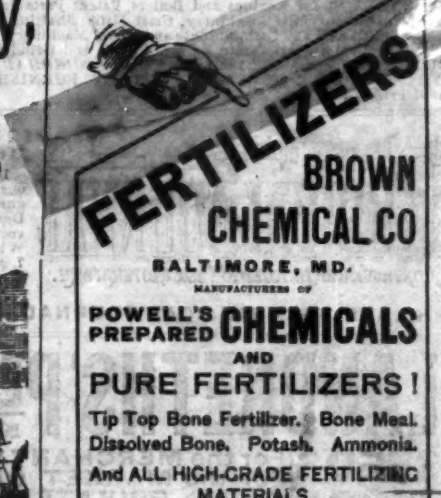

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